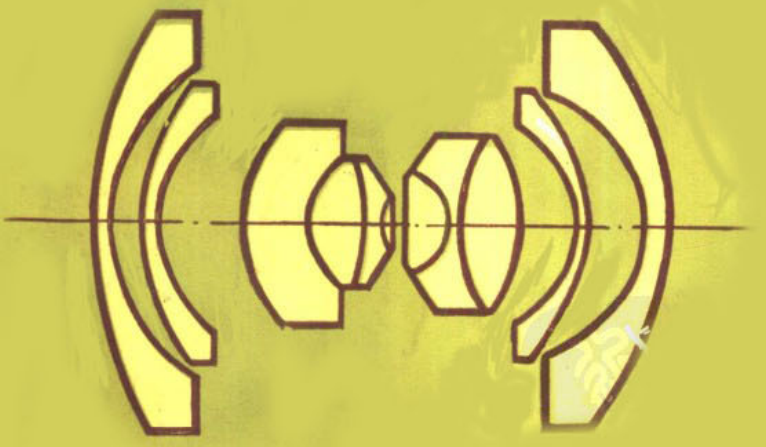
光学镜头手册

第十册

福建光学技术研究所
国营红星机电厂
编译



国防工业出版社

VISIT…

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国营红星机电厂 编译

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(京)新登字106号

内 容 简 介

本手册收集了美、英、德、日等国从1811年到1986年的光学镜头资料及部分国内镜头资料。

本册的内容为1984～1986年国外部分物镜、目镜、非球面镜头及1963～1986年国外部分显微镜物镜、特种镜头及其他镜头。其中显微镜物镜95个，特种镜头42个，变焦距物镜43个，大相对孔径物镜、广角物镜、目镜、非球面镜头、中等视场中等孔径物镜和其他类镜头63个，计243个。每个镜头都附有光学镜头的结构图、各种主要参数，对于球面系统的镜头，还附有主要像差值和像差曲线图。

本手册可供研究所和工厂的光学设计人员和大专院校光学专业的师生参考。

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第 十 册

福建光学技术研究所
国营红星机电厂 编译

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国防工业出版社出版发行

（北京市海淀区紫竹院南路23号）

（邮政编码 100044）

新华书店经销

国防工业出版社印刷厂印装

*

787×1092 1/16 印张19⅜ 449千字

1992年5月第一版 1992年5月第一次印刷 印数：0,001—1,000册

ISBN 7-118-00670-X/TB·23 定价：18.30元

编 译 者 说 明

由于电子工业和电影、电视事业的飞速发展，近年来我国在光学镜头设计及其加工方面取得了很大进展。成系列的各类镜头已经设计和试制出来，有些并已进入成批生产阶段。但在品种、数量和质量方面，跟世界先进水平相比，差距还是比较大。

近年来，我们收集了美、英、德、日等国从1811年到现在的部分光学镜头资料及部分国内镜头资料共3000多种，现挑选其中的一部分经补充整理之后，将其出版，以供我国从事光学镜头设计的人员参考。

我们准备分成“大相对孔径物镜”（第一、二册，已出），“广角物镜”（第三册，已出），“变焦距物镜”（第四册，已出），“中等视场中等孔径物镜”（第五册，已出），“日本70年代初的部分大相对孔径物镜及部分广角物镜专集”（第六册，已出），“1978～1980年国外部分物镜专集”（第七册，已出），“目镜”（第八册，已出），“1981～1984年国外部分物镜及1915～1983年国外部分非球面镜头”（第九册，已出），“特种镜头、显微镜物镜及其他”（第十册）等九类。每册收集的镜头数约为100～200个。

原资料中，大部分没有列出像差曲线图，对于球面镜头系统，我们均重新计算给予补上。由于原资料的光栏位置大多没有给出，我们计算时只能根据我们主观给定的光栏位置进行计算，因此相应的像差曲线图仅供参考。对于非球面镜头，均经计算验证原始数据的正确性，但没有计算像差，仅列出有关数据和公式，供设计者参考。非球面镜头是按发表的时间顺序排列的。

本册的内容为1984～1986年国外部分物镜、目镜、非球面镜头以及1963～1986年国外部分显微镜物镜、特种镜头及其他镜头专集。

参加本册编译工作的有杨甦田、林茂智、杨春田；参加本册部分编译工作的有金山、朱小平、郑跃华。

自1978年开始组织编译本手册以来，由于工作量太大、致使这项工作整整持续了十二个年头。如果不是广大读者和出版社的鼓励和支持，这项工作是很难坚持下来的。现在，终于将本手册的最后一册奉献给了读者。到此，我们的编译工作亦准备告一段落。

由于我们水平有限，力量不足，加上时间又拖得这样久，全书一定会存在不少缺点，甚至错误，恳请读者批评指正。

编 译 者

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符 号 说 明

1. 凡数据后有符号“*”，表示光栏位置或其值间有光栏。
   凡数据后有符号“**”，表示原资料中未给此值，此系编者在计算时给定的值。
2. 在主要参数表中，当d值是可变的，则用符号“***”表示。
3. 在主要参数表中，当半径r值后有符号“†”，表示该面为非球面。
4. 凡没有注明数值单位的，均以毫米为单位；若注明以英寸为单位，则在该镜头资料中均以英寸为单位。
5. 常用符号：

ΣS_1	球差系数和；
ΣS_2	彗差系数和；
ΣS_3	像散系数和；
ΣS_4	场曲系数和；
ΣS_5	畸变系数和；
LA'	球差；
$\Delta H'$	绝对畸变；
x'_t	细光束子午场曲；
x'_s	细光束弧矢场曲；
$x'_t - x'_s$	像散；
K'_{T1}	全口径的子午彗差；
$K'_{T0.7}$	0.707口径的子午彗差；
QP	相对畸变；
OSC′	正弦差；
HI	理想像高；
E.F.L	焦距；
B.F.L	后截距；
FNo.	相对孔径倒数；
F.A.	视场角；
L'_p	入瞳距离或光栏距L'_p下标所示面的距离；
η	物高；（线视场的1/2）
ω	镜头视场；
x_1	非球面半径r†值；
h	入瞳半径；
β	横向放大倍率；
l	物距（一般用于物距$=\infty$时）；
W.D.	物距（一般用于物距$\neq\infty$时）；

N A　　数值孔径；

6. 显微镜物镜中的规定和符号的意义

（1）计算像差按反向光路。

（2）结构图的绘制顺序和结构参数的排列顺序，按正向光路排列。

（3）N.A.，η，β，W.D.为物方初始条件。

（4）LA′，……，$K'_{T0.7}$为物方像差。

（5）N.A.′，η′为像方初始值。

（6）W.D.是物距。其中：

W是显微镜物镜的工作距离；

D是盖板玻璃厚度，没有缩放时，其值为0.17mm。

（7）E.F.L是由像→物计算的焦距；

B.F.L是由物→像计算的后截距；

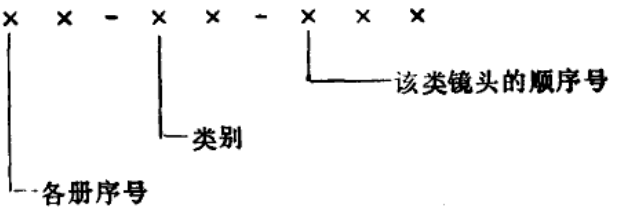
L_p是由像→物计算的入瞳距离。

（8）原资料中若未给物高η时，则取2η＝20或相应的缩放值。

（9）油浸显微镜物镜的结构参数表中的n_0和ν_0表示油的n和ν。

7. 第十册的编号说明

各位编码的意义：



例：10-05-020

即第十册、显微镜物镜类中的第20个镜头。

本手册的镜头共分九个类别，编码如下：

00：大相对孔径物镜；

01：目镜；

02：广角物镜；

03：变焦距物镜；

04：中等视场中等孔径物镜；

05：显微镜物镜；

06：非球面镜头；

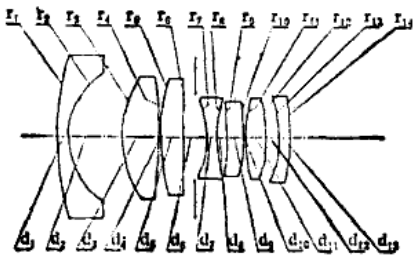
07：特种镜头；

08：其他类镜头。

编号：10-00-001

大孔径电视摄影机物镜

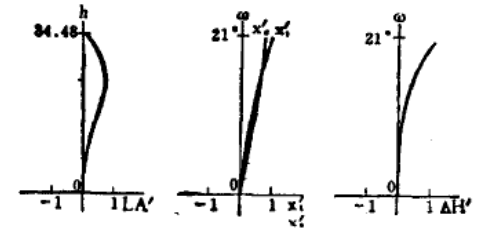
E.F.L＝100　　B.F.L＝76.53　　FNo.＝1.45　　F.A.＝±21°

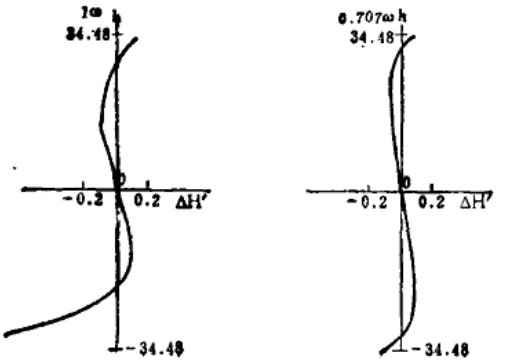


序号	r	d	n	ν	序号	r	d	n	ν
1	290.170	9.38	1.65844	50.9	8	129.295	8.50		
2	71.842	55.00			9	－338.592	17.94	1.69680	55.5
3	107.924	36.25	1.78590	44.2	10	－82.080	0.63		
4	－485.953	0.63			11	147.121	20.68	1.77250	49.6
5	208.437	22.50	1.69680	55.5	12	－147.121	12.50		
6	215713.100	22.50*			13	－119.498	10.00	1.80518	25.4
7	－91.189	9.75	1.80518	25.4	14	－235.913			

22.50* = 11.00 + 11.50

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.381	－0.068	－0.037	0.406	0.860	38.32	2.52%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.024	0.96	1.119	1.035	0.084	0.326	0.081
70	0.626	0.32	0.546	0.619	－0.073	0.025	－0.024

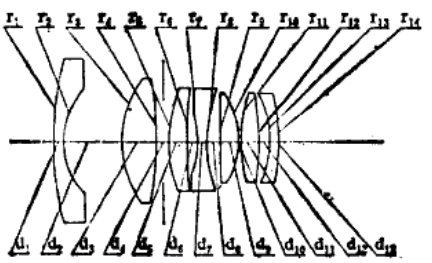




编号：10-00-002

大孔径电视摄影机物镜

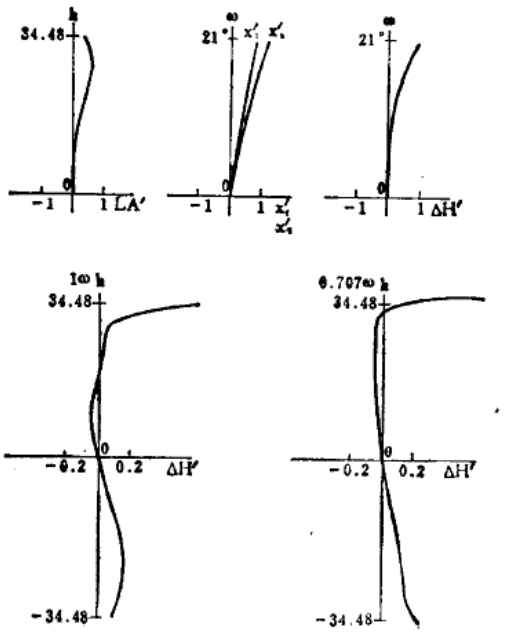
E.F.L＝100　　B.F.L＝72.10　　FNo.＝1.45　　F A.＝±21°



序号	r	d	n	v	序号	r	d	n	v
1	333.051	9.34	1.65844	50.9	8	141.407	14.32		
2	74.692	56.67			9	－989.424	18.06	1.71300	53.9
3	103.798	34.25	1.78590	44.2	10	－80.794	0.62		
4	－341.652	12.46*			11	153.846	16.19	1.71300	53.9
5	141.282	18.06	1.71300	53.9	12	－250.356	11.83		
6	478.528	11.21			13	－100.806	9.96	1.75520	27.5
7	－92.029	8.72	1.80518	25.4	14	－198.979			

12.46* = 6.23 + 6.23

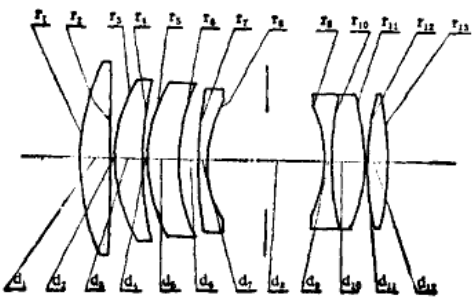
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.191	0.012	－0.026	0.431	1.252	38.32	2:27%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.297	0.87	0.873	1.122	－0.249	－0.395	－0.100
70	0.464	0.30	0.564	0.678	－0.114	－0.460	－0.028



编号：10-00-003

高 性 能 远 摄 物 镜

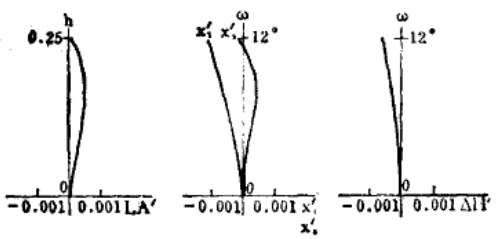
E.F.L=0.999　　B.F.L=0.464　　FNo.=2　　F.A.=±12°

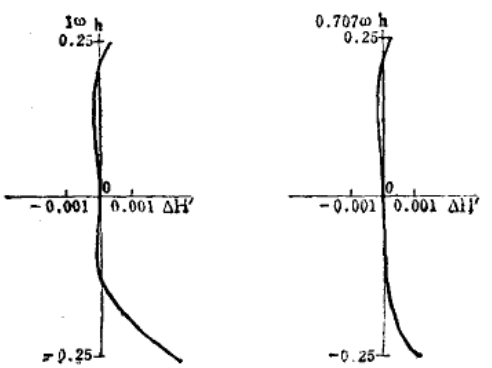


序号	r	d	n	v	序号	r	d	n	v
1	0.5632	0.0729	1.6779	55.3	8	0.2384	0.2332*		
2	3.1969	0.0079			9	-0.3427	0.0210	1.6398	34.5
3	0.4264	0.0533	1.4970	81.6	10	0.8443	0.0820	1.6968	55.5
4	0.8621	0.0109			11	-0.4942	0.0028		
5	0.4393	0.0886	1.6516	58.7	12	1.3271	0.0518	1.7174	29.5
6	0.4915	0.0535			13	-0.7852			
7	1.3747	0.0180	1.7552	27.5					

0.2332* = 0.1166 + 0.1166

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00030	0.00015	-0.00019	0.00043	0.00081	0.21	-0.3%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K'r_1$	$K'_{T0.7}$
100	0.00009	-0.0006	-0.0011	-0.0001	-0.0010	-0.0015	-0.0002
70	0.00066	-0.0003	-0.0007	0.0004	-0.0011	-0.0006	0

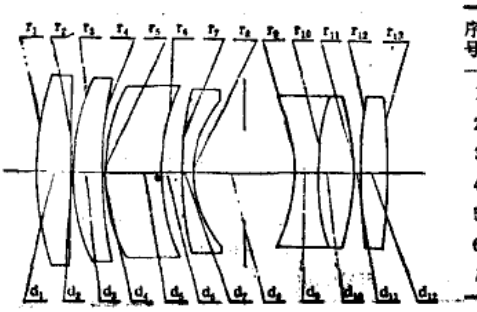




编号：10-00-004

高 性 能 远 摄 物 镜

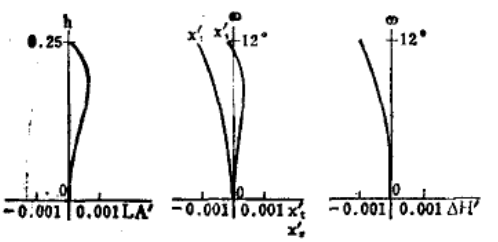
E.F.L＝1，　B.F.L＝0.45　　FNo.＝2　　F.A.＝±12°

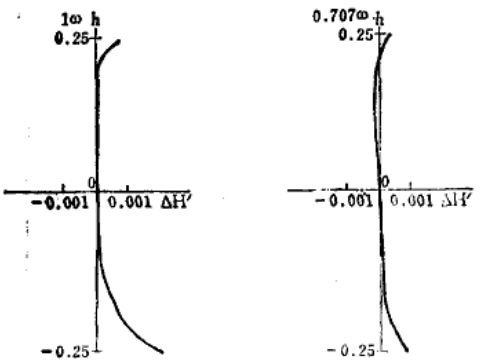


序号	r	d	n	v	序号	r	d	n	v
1	0.6436	0.0744	1.6170	62.8	8	0.2326	0.2070*		
2	3.4873	0.0011			9	−0.3592	0.0455	1.5814	40.8
3	0.4708	0.0601	1.4970	81.6	10	0.5959	0.0750	1.7200	42.0
4	0.9042	0.0041			11	−0.5380	0.0060		
5	0.3847	0.1171	1.6425	58.4	12	1.8088	0.0582	1.6968	55.5
6	0.4385	0.0393			13	−1.0970			
7	0.7168	0.0231	1.7618	26.5					

0.2070* = 0.1035 + 0.1035

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00027	0.00018	−0.00018	0.00037	−0.00040	0.21	−0.5%
b 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.00013	−0.0010	−0.0011	−0.0002	−0.0009	−0.0014	−0.0003
70	0.00059	−0.0004	−0.0007	0.0003	−0.0010	−0.0006	0

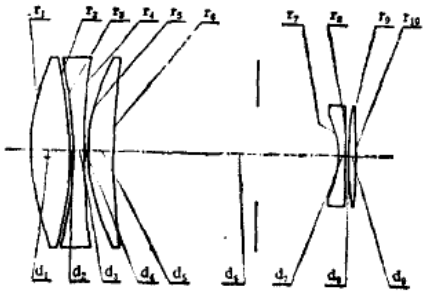




编号：10-00-005

大孔径全长短的远摄物镜

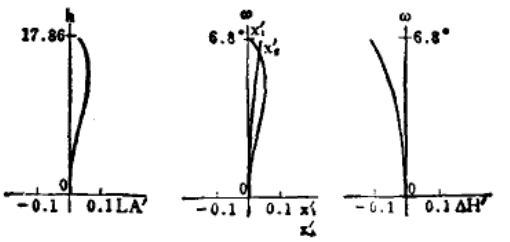
E.F.L＝100　　B.F.L＝22.27　　FNo.＝2.8　　F.A.＝±6.8°

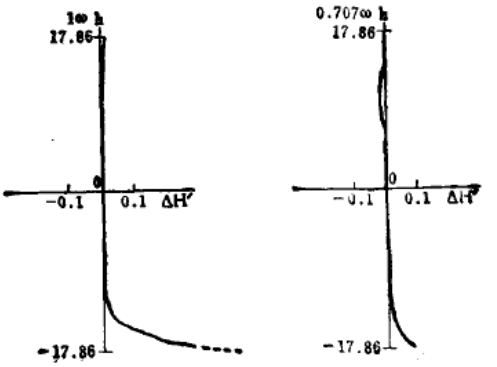


序号	r	d	n	v	序号	r	d	n	v
1	52.332	6.667	1.50032	81.9	6	151.922	49.389*		
2	−75.000	1.056			7	−18.333	1.667	1.51680	64.2
3	−72.222	1.944	1.74950	35.0	8	−333.611	0.056		
4	194.444	0.333			9	91.672	1.667	1.79631	40.8
5	41.056	5.167	1.61484	51.1	10	−131.287			

49.389* = 30.000 + 19.389

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0130	−0.0038	0.0051	0.0004	−0.0469	11.85	−0.9%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.022	−0.112	0.014	0.045	−0.031	−0.3088	−0.0042
70	0.058	−0.042	0.063	0.033	0.030	−0.0362	0.0006

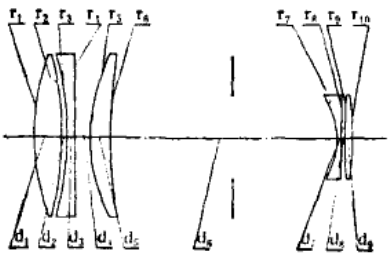




编号：10-00-006

大孔径全长短的远摄物镜

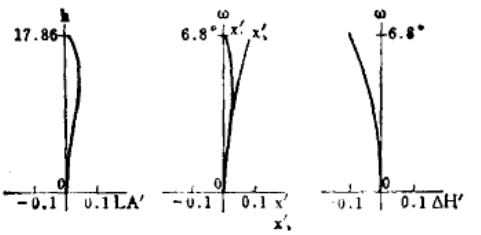
E.F.L＝100　　B.F.L＝22.92　　FNo.＝2.8　　F.A.＝±6.8°

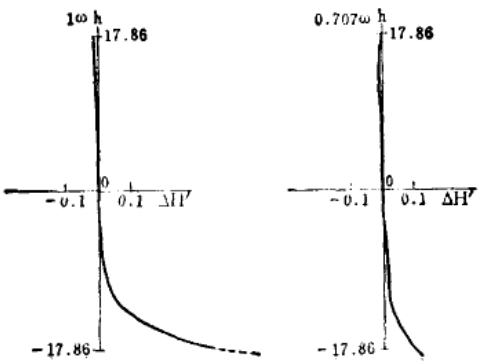


序号	r	d	n	v	序号	r	d	n	v
1	55.012	6.389	1.50032	81.9	6	133.333	50.500*		
2	−78.244	1.167			7	−19.722	1.000	1.51454	54.6
3	−76.698	2.056	1.74950	35.0	8	−305.556	0.278		
4	207.222	3.500			9	122.222	2.778	1.79668	45.4
5	43.208	5.111	1.65844	50.8	10	−90.107			

50.500* = 30.000 + 20.500

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0109	−0.0001	0.0012	0.0059	−0.0403	11.85	−0.8%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K'_{T1}	$K'_{T0.7}$
100	0.022	−0.100	0.005	0.085	−0.080	−0.326	−0.023
70	0.049	−0.037	0.035	0.048	−0.013	−0.059	−0.002

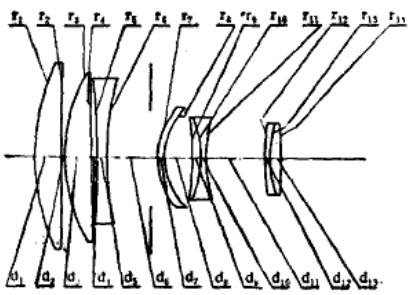




编号：10-00-007

大 孔 径 远 摄 物 镜

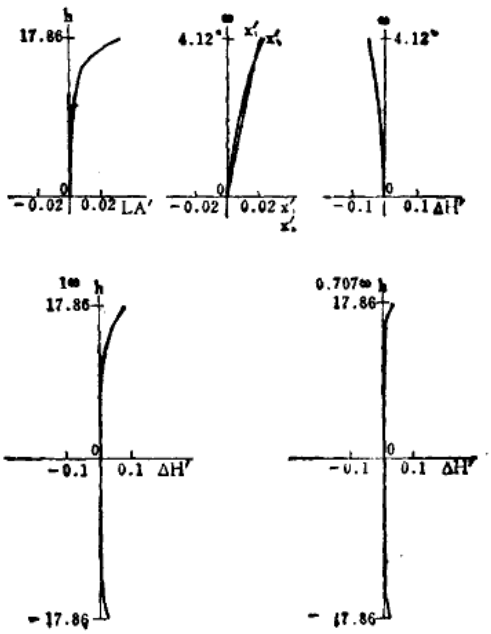
E F L＝100　　B F L＝39.25　　FNo.＝2.8　　F.A.＝±4.12°



序号	r	d	n	v	序号	r	d	n	v
1	46.022	5.613	1.49700	81.6	8	13.769	5.517		
2	198.074	0.170			9	−85.014	2.041	1.75520	27.5
3	35.074	5.783	1.49700	81.6	10	−23.328	0.850	1.62374	47.1
4	−214.081	1.051			11	28.488	12.090		
5	−147.297	1.700	1.67270	32.1	12	58.660	0.850	1.58904	53.3
6	69.040	10.307*			13	17.971	2.721	1.54771	62.9
7	15.878	2.041	1.58913	61.1	14	−81.504			

10.307* = 9.000 + 1.307

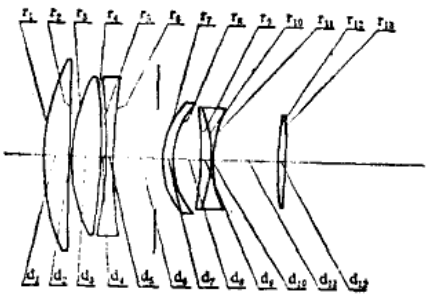
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0014	0.0024	0.0003	0.0015	−0.0173	7.21	−0.6%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.033	−0.050	0.019	0.020	−0.001	−0.050	−0.009
70	0.003	−0.017	0.015	0.012	0.003	−0.022	−0.002



编号：10-00-008

大 孔 径 远 摄 物 镜

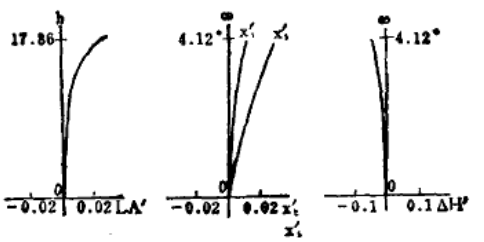
E.F.L＝99.99　　B.F.L＝39.58　　FNo.＝2.8　　F.A.＝±4.12°

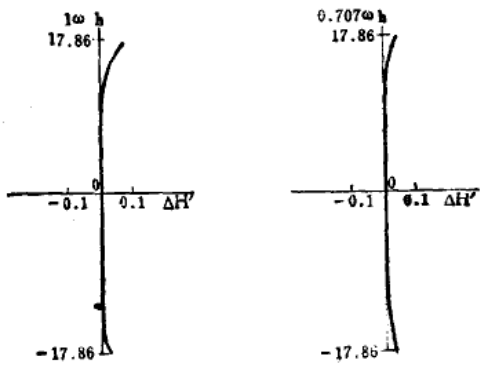


序号	r	d	n	v	序号	r	d	n	v
1	47.975	5.109	1.49700	81.6	8	14.526	5.524		
2	−578.939	0.170			9	−89.834	2.043	1.75520	27.5
3	36.441	6.471	1.49700	81.6	10	−28.832	0.851	1.54869	45.6
4	−131.121	1.052			11	24.817	13.637		
5	−114.319	1.703	1.67270	32.1	12	54.096	1.703	1.51835	60.3
6	102.753	10.330*			13	−132.637			
7	17.114	2.043	1.58913	61.1					

10.330* = 9.000 + 1.330

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00294	−0.00004	0.00078	0.00049	−0.01330	7.21	−0.5%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.030	−0.037	0.031	0.012	0.019	−0.057	−0.011
70	0.007	−0.013	0.019	0.008	0.011	−0.029	−0.004

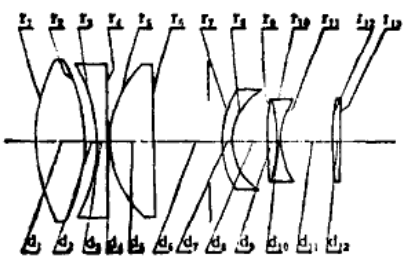




编号：10-00-009

大 孔 径 远 摄 物 镜

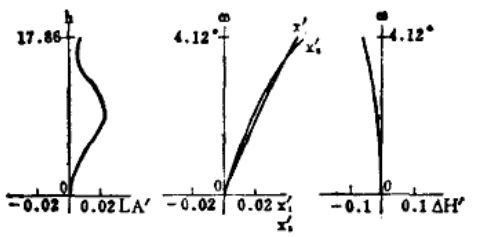
E.F.L＝100　　B.F.L＝42.26　　FNo.＝2.8　　F.A.＝±4.12°

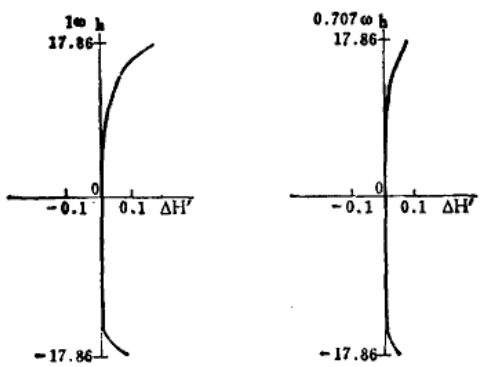


序号	r	d	n	v	序号	r	d	n	v
1	55.949	8.000	1.49700	81.6	8	12.986	5.555		
2	−53.319	1.920			9	127.952	1.666	1.75520	27.5
3	−48.599	1.666	1.77551	37.8	10	−64.236	0.666	1.66755	41.9
4	−384.929	0.333			11	25.975	8.322		
5	34.351	5.333	1.49700	81.6	12	108.111	1.333	1.70154	41.1
6	808.551	11.182*			13	−823.619			
7	15.225	1.931	1.58913	61.1					

11.182* = 9.000 + 2.182

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.0096	−0.0004	0.0002	0 0034	−0.0188	7.21	−0.7%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.008	−0.053	0.050	0.053	−0.003	−0.128	−0.015
70	0.018	−0.018	0.029	0.027	0.002	−0.064	−0.006

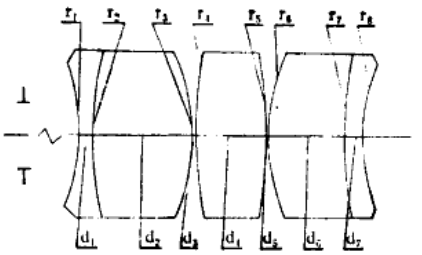




编号：10-01-001

大 孔 径 目 镜

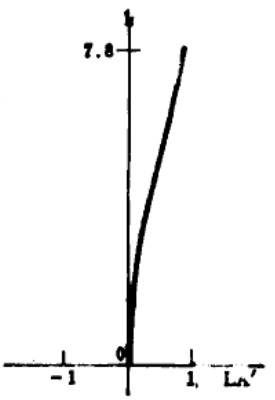
E.F.L＝100　　B.F.L＝92.54　　$\phi_{出}/2=7.8$　　F.A.＝±26°

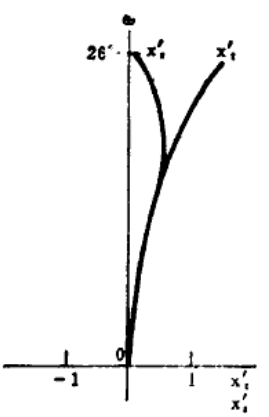


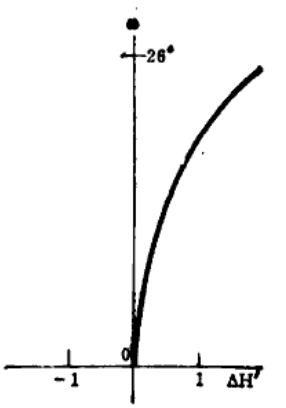
序号	r	d	n	v	序号	r	d	n	v
1	−49.2768	4.029	1.72342	38.0	5	−146.0110	0.448		
2	89.7569	24.744	1.51633	64.1	6	56.8566	18.395	1.63854	55.4
3	−49.0451	0.448			7	114.1650	4.701	1.72825	28.5
4	146.0110	17.552	1.77250	49.6	8	43.3574			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0113	0.0130	0.0118	0.0133	0.3841	48.79	4.5%

h 或 ω %	L_P	l'_P	LA′	OSC′	x'_1	x'_4	$x'_4-x'_4$	K'_{T1}	$K'_{T0.7}$	ΔH′
100	−40		0.91	0.0016	1.54	0.19	1.35	0.652	0.180	2.22
70	−40		0.46	0.0008	0.73	0.54	0.19	−0.022	−0.001	0.88



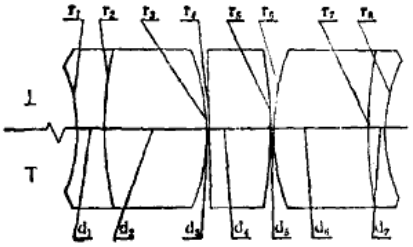




编号：10-01-002

大　孔　径　目　镜

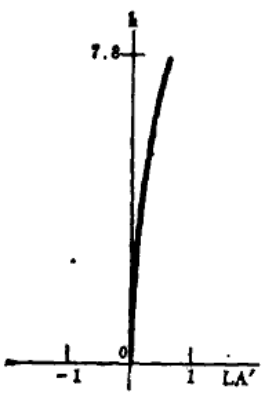
E.F.L＝100　　B.F.L＝96.48　　$\phi_{\text{像}}/2=7.8$　　F.A.＝±26°

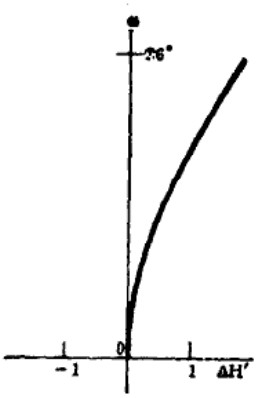


序号	r	d	n	v	序号	r	d	n	v
1	−44.7400	6.711	1.80518	25.4	5	−120.0570	0.447		
2	95.6832	25.617	1.62588	35.7	6	56.8555	22.370	1.69100	54.8
3	−54.7295	0.447			7	138.7990	4.698	1.68893	31.1
4	244.6950	15.659	1.77250	49.6	8	42.0556			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0079	0.0127	0.0223	−0.0098	0.3789	48.80	4.1%

h 或 ω %	L_p	l_p'	LA′	OSC′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$	ΔH′
100	−40		0.61	0.0016	−1.31	−1.37	0.06	0.127	−0.030	2.03
70	−40		0.31	0.0008	1.02	0.07	0.95	−0.060	−0.016	0.86

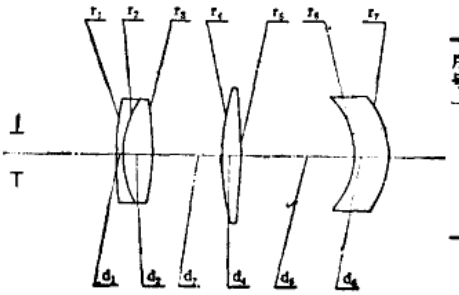




编号: 10-01-003

场曲和畸变较小的双眼目镜

E.F.L=10　　B.F.L=−7.3　　$\phi_{出}/2=1.3$　　F.A.=±25°



序号	r	d	n	v	序号	r	d	n	v
1	26.062	0.436	1.74000	28.27	5	−43.532	7.324		
2	6.632	2.182	1.62041	60.35	6	−5.178	2.763	1.71300	53.97
3	−7.372	4.727			7	−6.327			
4	17.584	1.273	1.71300	53.97					

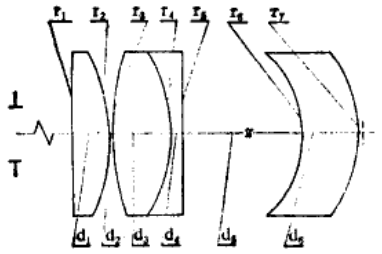
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0135	0.0207	0.0173	0.0295	−0.0652	4.66	4.1%

h 或 ω%	L_p	l'_p	LA′	OSC′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$	ΔH′
100	−7**		0.40	0.018	1.18	1.25	−0.07	−0.304	−0.061	0.19
70	−7**		0.20	0.009	1.23	0.66	0.57	0.163	0.082	0.10

编号: 10-01-004

场曲和畸变较小的双眼目镜

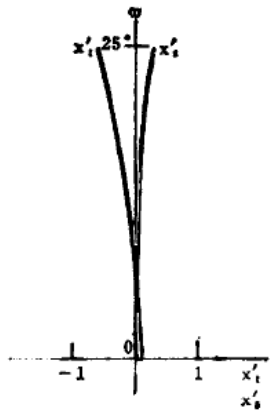
E.F.L=10　　B.F.L=−6.7　　$\phi_{出}/2=1.3$　　F.A.=±25°

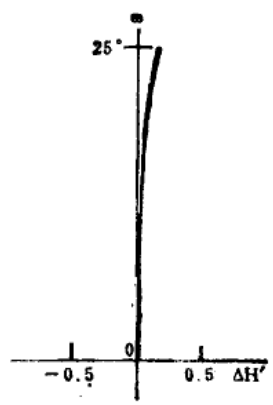


序号	r	d	n	v	序号	r	d	n	v
1	56.270	1.818	1.71300	53.97	5	−119.009	8.950		
2	−9.008	0.073			6	−6.178	2.763	1.71300	53.97
3	13.759	2.909	1.61272	58.47	7	−6.327			
4	−7.554	0.545	1.78470	26.07					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0100	0.0073	−0.0107	0.0228	−0.2183	4.6	4.1%

h 或 ω %	L_p	l'_p	LA′	OSC′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$	ΔH′
100	−7**		0.30	0.006	−0.71	0.25	−0.96	0.124	0.057	0.19
70	−7**		0.15	0.003	−0.23	0.13	−0.36	0.074	0.035	0.07

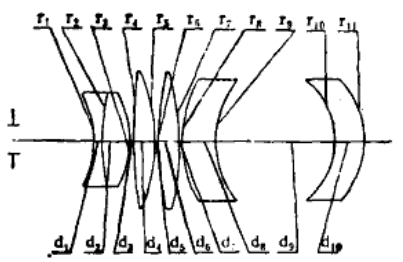




编号：10-01-005

场曲和畸变较小的双眼目镜

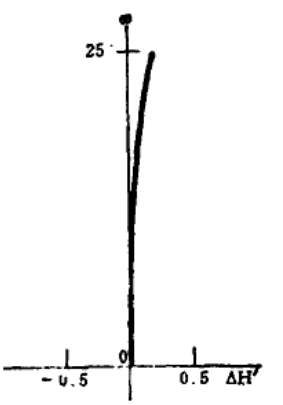
E.F.L＝10　　B.F.L＝－6.9　　$\phi_{物}/2=1.3$　　F.A.＝±25°



序号	r	d	n	v	序号	r	d	n	v
1	－7.834	0.545	1.71736	29.48	7	－24.203	0.073		
2	13.685	2.363	1.62041	60.29	8	9.861	2.727	1.71300	53.97
3	－7.561	0.073			9	7.588	9.440		
4	57.787	1.818	1.62041	60.29	10	－5.178	2.763	1.71300	53.97
5	－14.181	0.073			11	－6.327			
6	25.423	1.818	1.62041	60.29					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0107	0.0152	0.0071	0.0117	－0.1593	4.6	4.0%

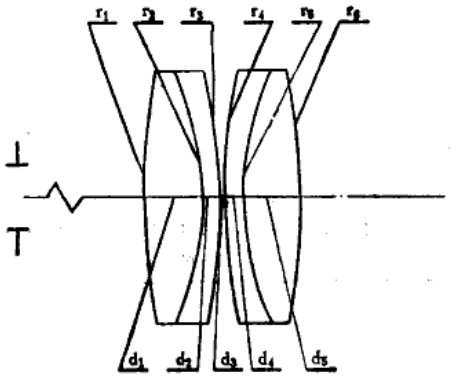
h 或 ω %	L_P	l_P'	LA′	OSC′	x_t'	x_s'	$x_t'-x_s'$	K_T'	$K_{T0.7}'$	ΔH′
100	－7**		0.31	0.013	0.46	0.44	0.02	0.060	0.038	0.19
70	－7**		0.15	0.006	0.41	0.24	0.17	0.100	0.051	0.07



编号：10-01-006

大孔径放大用光学系统

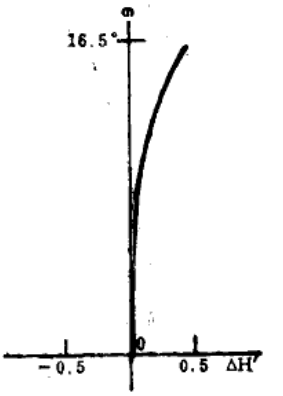
E.F.L=24.856　　B.F.L=21.45　　$\phi_{出}/2=2^{**}$　　F.A.=±16.5°



序号	r	d	n	v	序号	r	d	n	v
1	46.000	3.8	1.51633	64.1	4	36.000	1.2	1.67270	32.1
2	−18.337	1.1	1.67270	32.1	5	18.140	3.7	1.51874	64.5
3	−36.782	0.2			6	−47.284			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00146	0.00080	−0.00032	0.01054	0.06835	7.36	5.3%

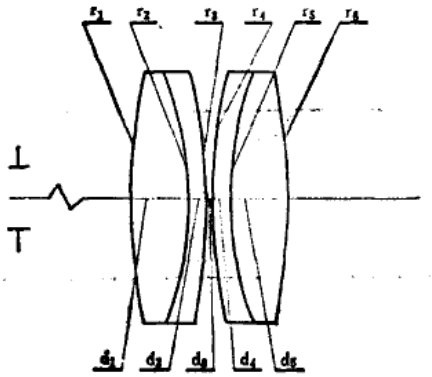
h 或 ω %	L_p	l_p'	LA′	OSC′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$	ΔH′
100	−20		0.112	0.0007	0.69	0.74	−0.05	0.019	0.009	0.39
70	−20		0.056	0.0003	0.34	0.37	−0.03	0.012	0.006	0.13



编号：10-01-007

大孔径放大用光学系统

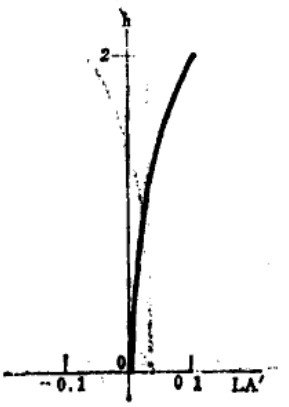
E.F.L=25.024　　B.F.L=21.56　　$\phi_{\text{像}}/2=2^{**}$　　F.A.=±16.4°

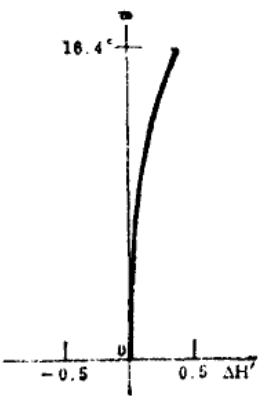


序号	r	d	n	v	序号	r	d	n	v
1	42.900	3.8	1.48749	70.1	4	35.180	1.1	1.62004	36.3
2	−16.586	1.1	1.62004	36.3	5	16.586	3.8	1.48749	70.1
3	−35.180	0.2			6	−42.900			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00144	0.00082	−0.00037	0.01051	0.06552	7.35	5.1%

h或ω%	L_p	l'_p	LA′	OSC′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$	ΔH′
100	−20		0.113	0.0007	0.63	0.73	−0.10	0.015	0.007	0.37
70	−20		0.056	0.0003	0.33	0.37	−0.04	0.011	0.005	0.13

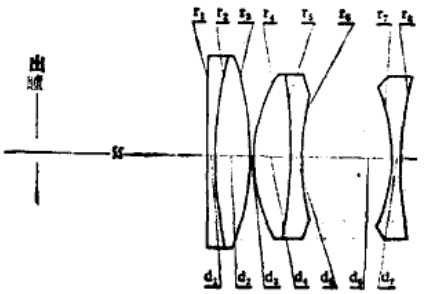




编号: 10-01-008

长出瞳距离的目镜

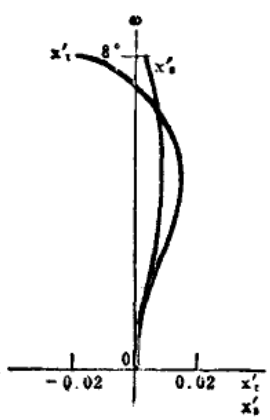
E.F.L=1.01　　B.F.L=0.21　　$\phi_{出}/2=0.15^{**}$　　F.A.=±8°

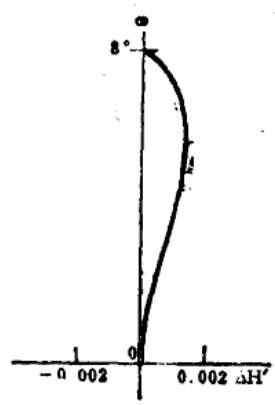


序号	r	d	n	v	序号	r	d	n	v
1	-19.939	0.037	1.7557	27.2	5	-3.832	0.040	1.7618	26.5
2	1.723	0.139	1.6775	55.4	6	1.236	0.398		
3	-1.102	0.004			7	-0.657	0.037	1.8340	37.1
4	0.541	0.167	1.7200	52.0	8	1.698			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00047	0.00061	0.00089	-0.00009	0.00213	0.14	0.03%

h 或 ω%	L_p	l_p'	LA′	OSC′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$	ΔH′
100	-2.778		0.010	0.015	-0.020	0.004	-0.024	0.004	0.001	0.00005
70	-2.778		0.005	0.007	0.014	0.006	0.008	0.003	0.001	0.00153

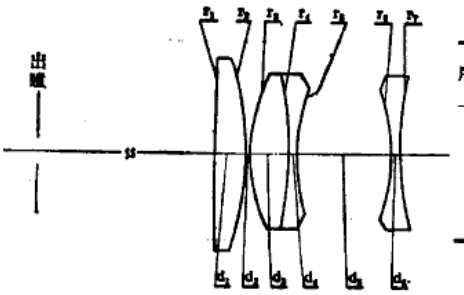




编号: 10-01-009

长出瞳距离的目镜

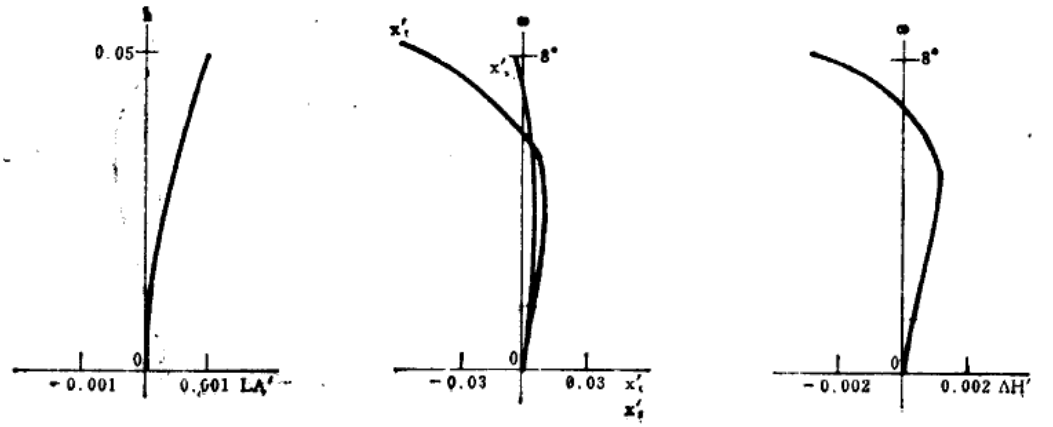
E.F.L=1　　B.F.L=0.203　　$\phi_{出}/2=0.05^{**}$　　F.A.=±8°



序号	r	d	n	v	序号	r	d	n	v
1	9.763	0.139	1.6775	55.4	5	0.792	0.391		
2	−1.114	0.004			6	−0.607	0.037	1.6200	36.3
3	0.514	0.166	1.7200	52.0	7	1.394			
4	−1.456	0.040	1.7613	26.5					

i	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000005	0.000021	0.000095	−0.000011	0.000712	0.14	−2.1%

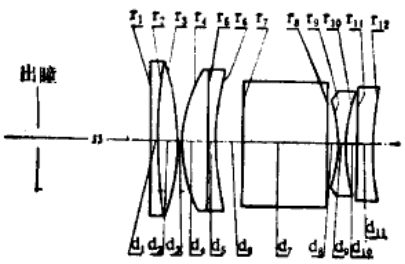
h或ω%	L_p	l_p'	LA′	OSC′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$	ΔH′
100	−2.774		0.0011	0.0015	−0.063	−0.003	−0.060	0.00001	−0.00001	−0.003
70	−2.774		0.0005	0.0007	0.006	0.004	0.002	0.00023	0.00011	0.001



编号：10-01-010

长出瞳距离的目镜

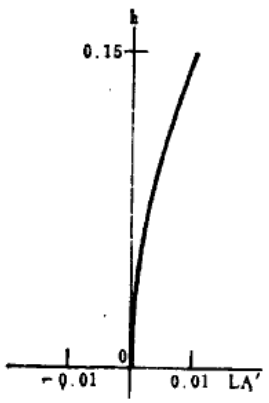
E.F.L=1.02　　B.F.L=0.078　　$\phi_{出}/2=0.15^{**}$　　F.A.=±8°

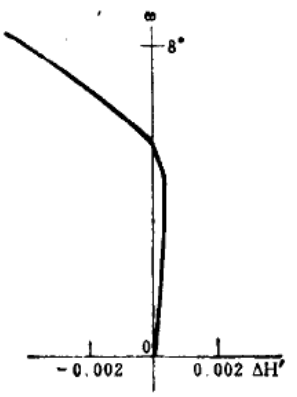


序号	r	d	n	v	序号	r	d	n	v
1	-6.896	0.037	1.7557	27.2	7	∞	0.417	1.6727	32.2
2	4.109	0.102	1.6775	55.4	8	∞	0.055		
3	-0.973	0.001			9	-0.547	0.037	1.6200	36.3
4	0.581	0.129	1.7200	52.0	10	0.641	0.050		
5	10.557	0.040	1.7618	26.5	11	10.153	0.097	1.5168	64.2
6	1.533	0.129			12	2.787			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00041	0.00051	0.00068	-0.00026	0.00109	0.14	-3.5%

h 或 ω %	L_p	l'_p	LA′	OSC′	x'_t	x'_s	$x'_t-x'_s$	Kf_1	$Kf_{0.7}$	ΔH′
100	-2.774		0.010	0.013	-0.038	-0.006	-0.032	0.016	0.005	-0.005
70	-2.774		0.004	0.006	0.003	0.001	0.002	0.004	0.001	0

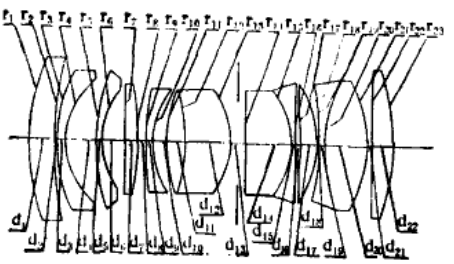




编号：10-02-001

单镜头反射照相机用反远距型大孔径超广角物镜

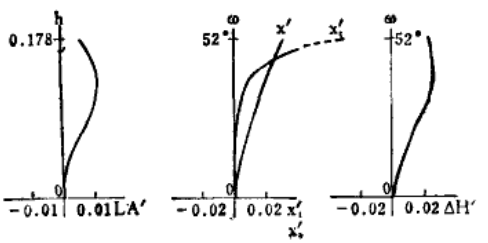
E.F.L＝1　　B.F.L＝2.085　　FNo.＝2.8　　F.A.＝±52°

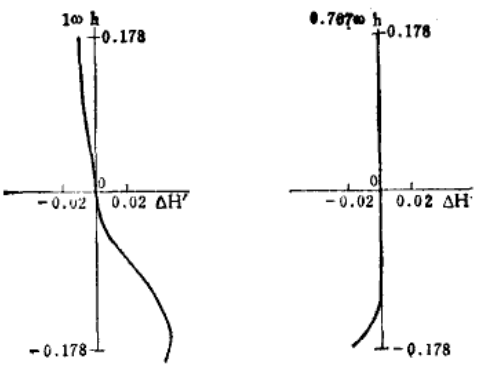


序号	r	d	n	v	序号	r	d	n	v
1	2.1376	0.2628	1.58913	61.0	13	−0.7925	0.1143*		
2	3.9718	0.0057			14	−9.4189	0.4468	1.51633	64.1
3	1.4701	0.0857	1.80610	40.9	15	−0.7249	0.0571	1.75520	27.5
4	0.6970	0.2943			16	9.9349	0.0485		
5	1.6192	0.0685	1.79952	42.2	17	−3.3072	0.1485	1.51633	64.1
6	0.7007	0.2246			18	−1.0001	0.0057		
7	8.0445	0.1371	1.58913	61.0	19	−2.5532	0.0571	1.88300	40.8
8	−2.9543	0.0744			20	1.5645	0.4114	1.51633	64.1
9	3.6069	0.0571	1.77250	49.6	21	−1.1703	0.0057		
10	0.7194	0.1363			22	31.5042	0.2114	1.77250	49.6
11	1.4963	0.1714	1.80518	25.4	23	−2.2160			
12	−1.9753	0.4726	1.51633	64.1					

0.1143* = 0.0572 + 0.0571

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1ω）
	0.0027	−0.0053	0.0097	0.0062	0.0501	1.27	1.7%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.006	0.021	0.644	0.034	0.610	−0.013	−0.015
70	0.012	0.022	0.006	0.018	−0.012	0.008	0.001

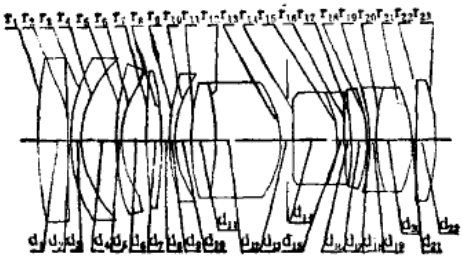




编号：10-02-002

单镜头反射照相机用反远距型大孔径超广角物镜

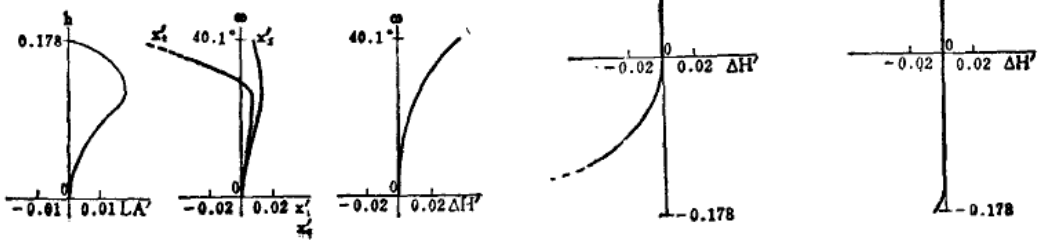
E.F.L＝1　　B.F.L＝2.108　　FNo.＝2.8　　F.A.＝±40.1°**



序号	r	d	n	ν	序号	r	d	n	ν
1	4.7267	0.2859	1.65844	50.9	13	−0.8941	0.1142*		
2	9.4579	0.0057			14	8.6300	0.4174	1.51633	64.1
3	1.7204	0.0857	1.71300	53.9	15	−0.9149	0.0571	1.75520	27.5
4	0.8059	0.3409			16	4.8257	0.0457		
5	2.2325	0.0686	1.77250	49.6	17	−2.7075	0.1372	1.51633	64.1
6	0.8596	0.2231			18	−1.2062	0.0057		
7	4.8520	0.1429	1.68250	44.7	19	−1.9853	0.0571	1.80610	40.9
8	−4.1846	0.0743			20	1.6297	0.3545	1.51633	64.1
9	1.6920	0.0571	1.77250	49.6	21	−1.0958	0.0057		
10	0.6736	0.1781			22	−58.3060	0.1887	1.77250	49.6
11	2.0083	0.2287	1.69895	30.1	23	−2.0181			
12	−2.5651	0.6362	1.58921	41.1					

0.1142* = 0.0571 + 0.0571

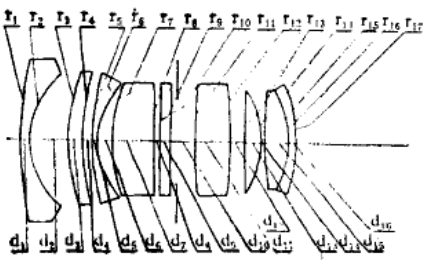
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0034	−0.0040	0.0041	0.0027	0.0002	0.84	4.3%
h 或 ω %	LA′	Δ H′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0002	0.036	−0.112	0.007	−0.119	0.1170	0.0258
70	0.0172	0.013	0.006	0.012	−0.006	0.0054	0.0007



编号: 10-02-003

鱼　眼　物　镜

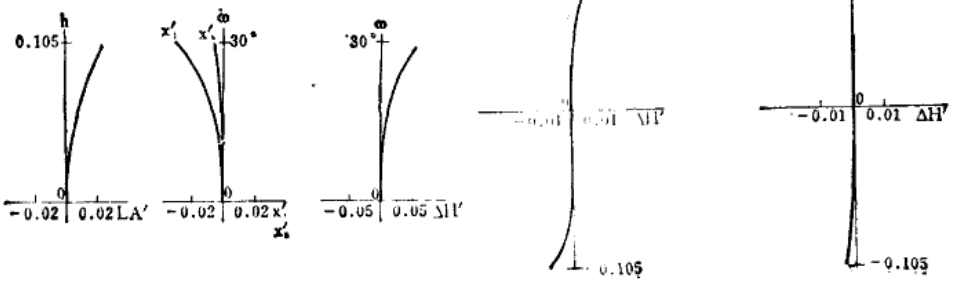
E.F.L=0.95　　B.F.L=2.41　　FNo. =4.5**　　F.A =±30° **



序号	r	d	n	v	序号	r	d	n	v
1	4.57033	0.12356	1.67000	57.3	10	∞	0.28278*		
2	0.85748	0.46706			11	41.06810	0.46704	1.51112	60.5
3	2.35633	0.18533	1.78472	25.7	12	−17.95082	0.20634		
4	3.09075	0.10502			13	−18.40890	0.21128	1.49831	65.1
5	3.49933	0.07413	1.58913	61.3	14	− 1.04731	0.00618		
6	0.78087	0.19769			15	5.64650	0.27800	1.48749	70.4
7	1.97936	0.50040	1.72825	28.3	16	− 0.86736	0.06178	1.80518	25.5
8	22.12140	0.05436			17	− 1.63958			
9	∞	0.11120	1.51680	64.2					

0.28278* = 0.09000 + 0.19278

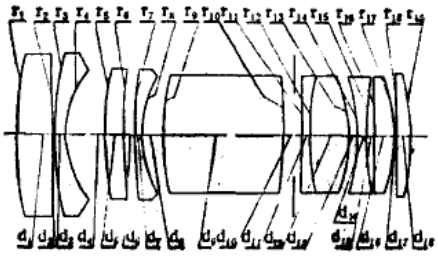
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.00067	0.00076	0.00035	0.00003	0.00965	0.54	9.5%
h 或 ω %	LA′	Δ H′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.025	0.051	− 0.033	− 0.004	− 0.029	− 0.0034	− 0.0006
70	0.013	0.017	− 0.012	− 0.002	− 0.010	0.0013	0.0011



编号：10-02-004

长后截距反远距型广角照相物镜

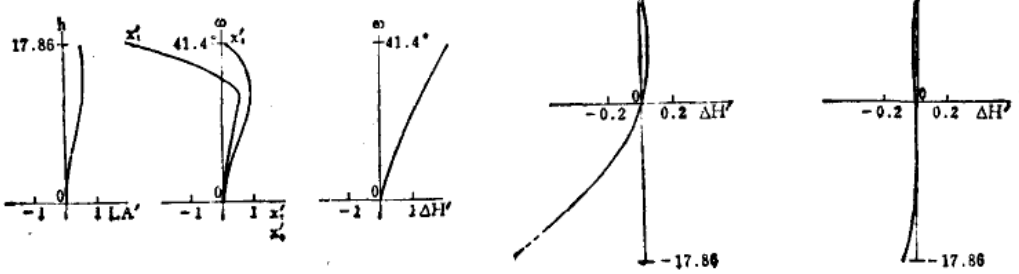
E.F.L. =99.98　　B.F.L=157.86　　FNo. =2.8　　F.A. = ±41.4°



序号	r	d	n	v	序号	r	d	n	v
1	182.840	17.55	1.55963	61.2	11	552.170	3.67	1.68600	49.1
2	759.470	0.41			12	124.220	19.83	1.71300	53.9
3	167.270	5.71	1.59551	39.2	13	−78.877	4.49		
4	46.301	19.59			14	−90.814	4.08	1.80518	25.4
5	146.850	9.39	1.60342	38.0	15	173.220	3.84		
6	239.100	5.31			16	−413.990	10.06	1.72000	50.2
7	227.260	3.67	1.69100	54.8	17	−81.051	0.41		
8	55.325	10.03			18	−542.060	8.62	1.72000	50.2
9	125.150	59.88	1.78470	26.2	19	−138.160			
10	− 323.380	8.98*							

8.98* = 5.00 + 3.98

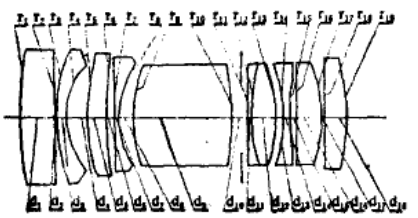
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.111	−0.122	0.105	0.234	2.454	88.05	2.5%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.588	2.28	−3.19	0.08	−3.27	0.509	0.256
70	0.576	1.35	0.46	0.93	−0.47	0.013	0.022



编号：10-02-005

长后截距反远距型广角照相物镜

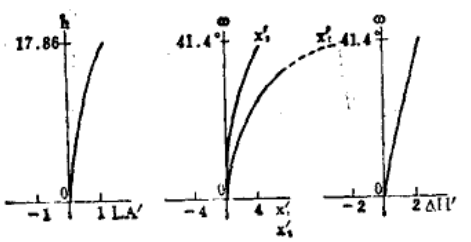
E.F.L＝99.67　　B.F.L＝160.93　　FNo.＝2.8　　F.A.＝±41.4°

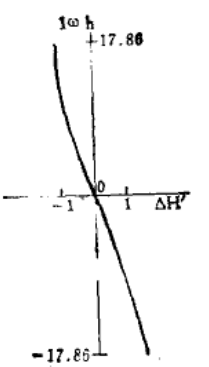


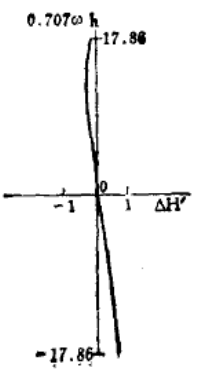
序号	r	d	n	v	序号	r	d	n	v
1	247.450	20.65	1.65844	50.9	11	878.830	3.67	1.61484	51.2
2	845.820	0.41			12	123.890	14.23	1.77250	49.6
3	126.300	5.71	1.68893	31.1	13	－87.013	4.59		
4	48.283	16.18			14	－88.330	1.08	1.80518	25.4
5	135.010	11.80	1.68893	31.1	15	153.870	3.84		
6	272.570	4.92			16	－352.690	14.16	1.69680	55.5
7	717.110	3.67	1.77250	49.6	17	－79.840	0.41		
8	53.367	9.91			18	－502.320	13.68	1.69680	55.5
9	94.059	58.05	1.69895	30.1	19	－130.100			
10	－188.720	8.99*							

8.99* = 5.20 + 3.79

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.132	－0.178	0.304	0.171	4.065	87.77	2.4%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{t1}'	$K_{t0.7}'$
100	1.144	2.15	17.00	4.12	12.88	－0.174	－0.091
70	0.683	1.45	4.85	1.89	2.96	－0.306	－0.184



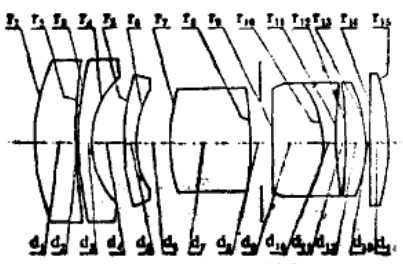




编号：10-02-006

小型单镜头反射照相机用反远距型广角物镜

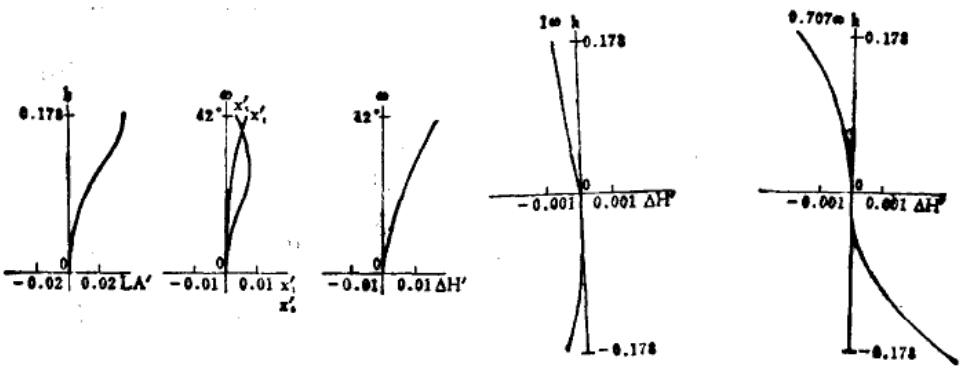
E.F.L＝0.918　　B.F.L＝1.400　　FNo.＝2.58　　F.A.＝±42°



序号	r	d	n	ν	序号	r	d	n	ν
1	0.9929	0.2032	1.7234	38.0	9	−4.5279	0.2536	1.7618	27.1
2	2.9435	0.0041			10	−0.4098	0.0549	1.8052	25.4
3	1.7084	0.0610	1.6228	57.1	11	2.3780	0.0500		
4	0.4157	0.1557			12	−2.3062	0.1016	1.6680	50.0
5	1.3437	0.0610	1.7130	54.0	13	−0.6202	0.0061		
6	0.4614	0.1642			14	39.7139	0.0976	1.6180	63.4
7	0.8417	0.3711	1.6141	55.0	15	−1.1628			
8	−1.8323	0.1028*							

0.1028* = 0.0500 + 0.0528

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.00386	−0.00202	0.00039	0.00366	0.33783	0.82	2.0%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.038	0.016	0.0057	0.0020	0.0037	0.00059	0.00031
70	0.023	0.011	0.0021	0.0094	−0.0073	−0.00088	−0.00041

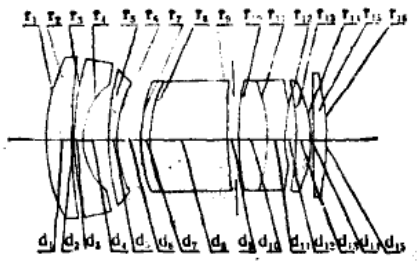


注：当n_{12}＝1.6180（ν_{12}＝63.4）时，E.F.L＝1，此时轴上像差明显变好。

编号：10-02-007

小型单镜头反射照相机用反远距型广角物镜

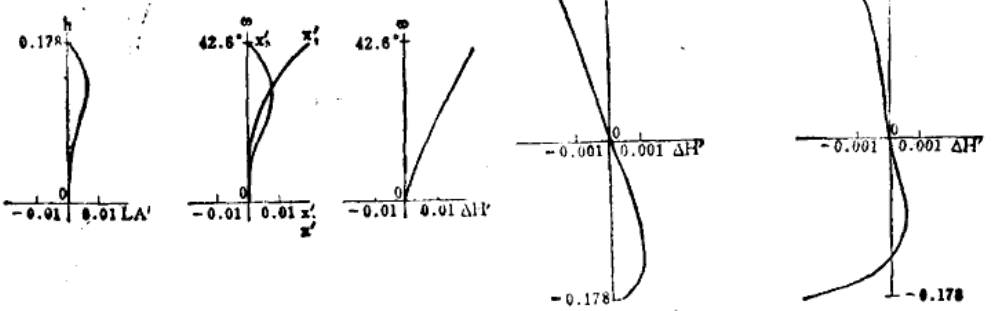
E.F.L＝1　　B.F.L＝1.455　　FNo.＝2.8　　F.A.＝±42.6°



序号	r	d	n	v	序号	r	d	n	v
1	0.8404	0.1292	1.7200	50.4	9	3.1889	0.0517*		
2	2.5703	0.0038			10	1.5540	0.1498	1.7620	40.2
3	1.4611	0.0388	1.6180	63.4	11	−0.8097	0.0932	1.8052	25.4
4	0.3275	0.1308			12	1.5325	0.0473		
5	1.5280	0.0388	1.6485	53.0	13	−1.5070	0.0737	1.6968	55.6
6	0.5965	0.1168			14	−0.5633	0.0038		
7	0.7924	0.0396	1.6678	41.9	15	−38.4579	0.0753	1.7340	51.5
8	0.5388	0.3785	1.6261	39.1	16	−1.4308			

0.0517* = 0.0300 + 0.0217

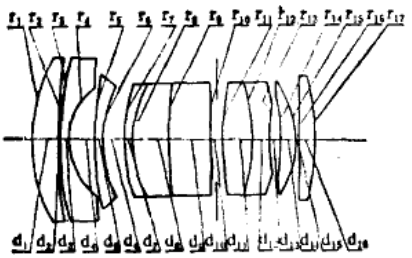
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.00127	−0.00099	0.00029	0.00257	0.46685	0.91	2.9%
h 或 ω%	LA′	ΔH′	x_i'	x_i'	$x_i' - x_i'$	K_{T1}	$K_{t0.7}$
100	0.0003	0.026	0.0194	0.0006	0.0188	0.000680	0.000007
70	0.0057	0.014	0.0065	0.0083	−0.0018	0.002346	0.000161



编号：10-02-008

小型单镜头反射照相机用反远距型广角物镜

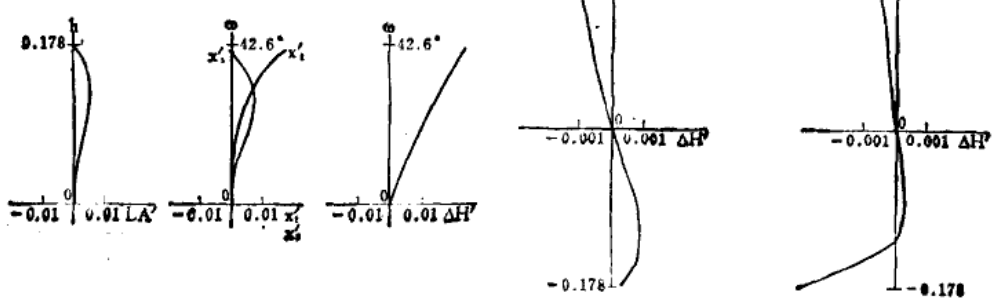
E.F.L=0.999　　B.F.L=1.453　　FNo.=2.8　　F.A.=±42.6°



序号	r	d	n	v	序号	r	d	n	v
1	0.8299	0.1290	1.7200	50.4	10	3.8690	0.0516*		
2	2.5764	0.0038			11	1.6059	0.1570	1.7620	40.2
3	1.4996	0.0387	1.6180	63.4	12	0.8091	0.0832	1.8052	25.4
4	0.3282	0.1307			13	1.5350	0.0472		
5	1.5117	0.0387	1.6485	53.0	14	1.4575	0.0736	1.6968	55.6
6	0.5629	0.1079			15	0.5545	0.0038		
7	0.7628	0.0395	1.6676	41.9	16	-121.6048	0.0752	1.7340	51.5
8	0.5353	0.1845	1.6261	39.1	17	-1.4855			
9	2.1167	0.2064	1.6237	46.9					

$0.0516^* = 0.0300 + 0.0216$

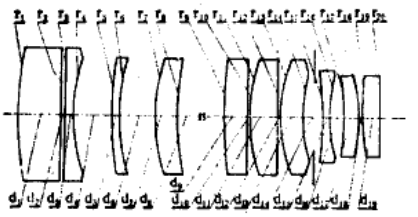
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1ω）
	0.00115	-0.00081	0.00008	0.00248	0.82448	0.91	2.9%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.00009	0.026	0.0163	-0.0017	0.0180	0.00047	-0.00003
70	0.00495	0.014	0.0040	0.0071	-0.0031	0.00216	0.00021



编号：10-02-009

广　角　物　镜

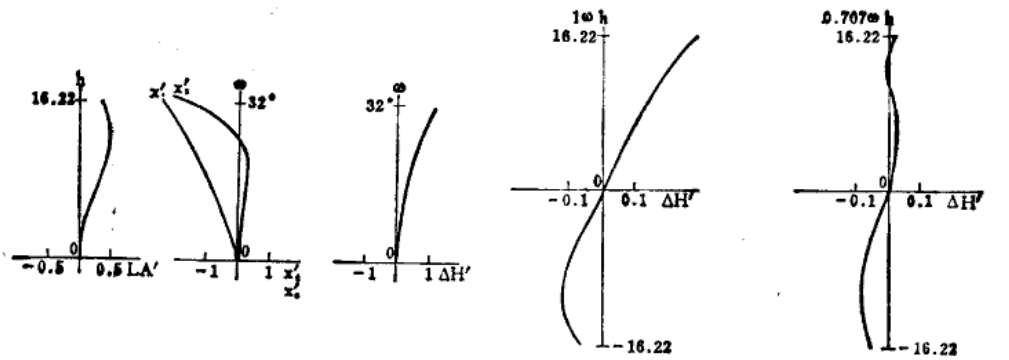
E.F.L＝146.45　　B.F.L＝169.42　　FNo.＝4.5**　　F.A.＝±32°**



序号	r	d	n	v	序号	r	d	n	v
1	297.357	25.4	1.60323	42.5	11	75.429	16.4	1.51454	54.6
2	−2511.414	2.1			12	1084.214	0.4		
3	1446.429	5.0	1.67790	55.5	13	65.714	13.2	1.51680	64.2
4	77.814	21.8			14	97.761	11.4*		
5	215.714	5.0	1.71300	53.9	15	−347.632	3.6	1.80518	25.5
6	129.011	21.1			16	63.800	8.6		
7	95.143	12.1	1.59507	35.6	17	−166.082	8.9	1.64831	33.8
8	143.932	50.0			18	−84.018	0.4		
9	211.429	13.6	1.50032	81.9	19	133.732	11.4	1.64831	33.8
10	3736.214	0.4			20	−1434.457			

11.4* = 5.7 + 5.7

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.032	0.020	−0.043	0.119	−1.989	91.51	1.2%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.35	1.13	−2.73	−2.31	−0.42	−0.112	−0.015
70	0.45	0.50	−1.41	0.28	−1.69	0.019	0.042

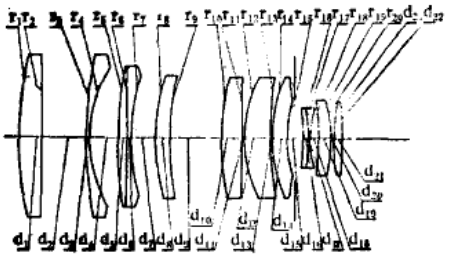


注：本镜头可作为广角变焦距物镜，此时d_8＝114.80～1.72，E.F.L＝100～200。

编号：10-02-010

广　角　物　镜

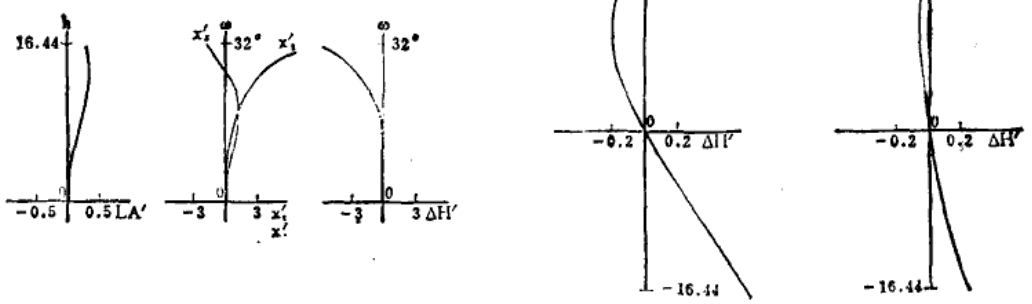
E.F.L＝148.44　　B.F.L＝163.14　　FNo.＝4.5**　　F.A.＝±32°**



序号	r	d	n	v	序号	r	d	n	v
1	366.919	23.7	1.60311	60.7	12	83.430	25.1	1.52000	70.1
2	9892.783	41.4			13	527.112	0.3		
3	446.126	5.2	1.71300	53.9	14	102.314	15.0	1.52000	70.1
4	86.883	27.6			15	162.916	12.6*		
5	436.547	9.8	1.64831	33.8	16	−212.311	5.2	1.80518	25.5
6	2683.735	3.5	1.71300	53.9	17	−166.351	2.8	1.74000	28.2
7	123.569	22.3			18	72.853	7.0		
8	118.688	14.7	1.67270	32.2	19	−260.065	12.2	1.50137	56.5
9	245.047	50.0			20	−94.950	0.3		
10	179.532	19.2	1.50032	81.9	21	156.004	77.	1.62606	39.1
11	−910.239	0.3			22	−399.397			

12.6* ≈ 6.3 + 6.3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ∞）
	0.017	−0.014	0.010	0.125	2.940	92.75	−6.4%
h 或 ω%	LA′	ΔH′	x_i'	x_s'	$x_i'-x_s'$	K_{f1}	$K_{f0.7}$
100	0.29	−5.96	7.75	−1.95	9.70	−0.308	−0.139
70	0.26	−1.16	1.70	1.22	0.48	−0.119	−0.047

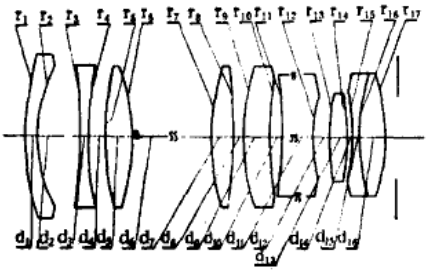


注：本镜头可作为广角变焦距物镜，此时d_9＝114.62～2.85，E.F.L＝100～190。

·编号：10-03-001

广 角 变 焦 距 物 镜

E.F.L=0.9998～1.9031　B.F.L=1.1813　FNo.=4　F.A.=±32°～±16°



序号	r	d	n	v	序号	r	d	n	v
1	1.2267	0.0444	1.74320	49.3	10	1.6077	0.0553		
2	0.6502	0.2167			11	−2.1789	0.2778	1.80518	25.4
3	−2.2417	0.0333	1.69350	53.2	12	0.5891	0.0806		
4	1.5491	0.0879			13	1.2003	0.0833	1.74320	49.3
5	1.2674	0.1333	1.63980	34.5	14	−1.2671	＊＊＊2		
6	−7.2368	＊＊＊1			15	−0.9250	0.0333	1.80400	46.6
7	0.9973	0.1167	1.69680	55.5	16	0.8152	0.1250	1.58144	40.7
8	−2.8437	0.0444			17	−0.7263			
9	0.8365	0.1361	1.80400	46.6					

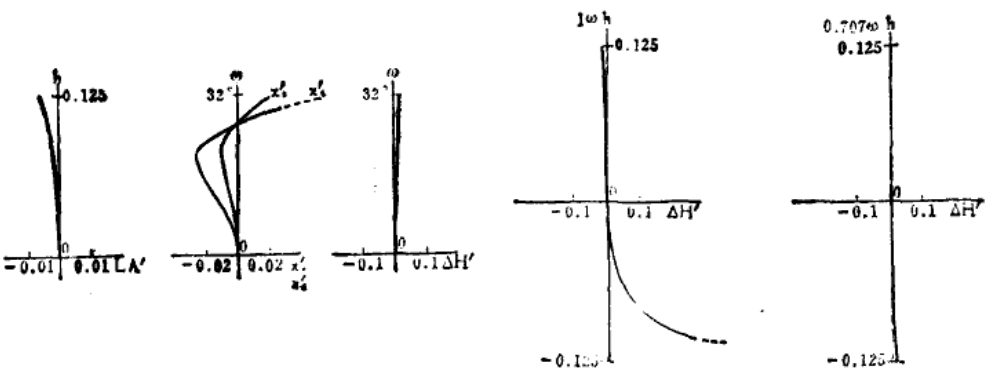
$L'_{\phi 17}=0.0500$

10-03-001-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	−0.00003	0.00058	−0.00182	0.00046	−0.01580	0.624	1.53%
h 或 ω %	LA′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	−0.0064	0.0096	0.310	0.020	0.290	−0.4332	−0.0585
70	−0.0017	0.0109	−0.026	−0.012	−0.014	−0.0034	−0.0007

E.F.L=0.9998（±32°）

＊＊＊1=1.0749，＊＊＊2=0.0273

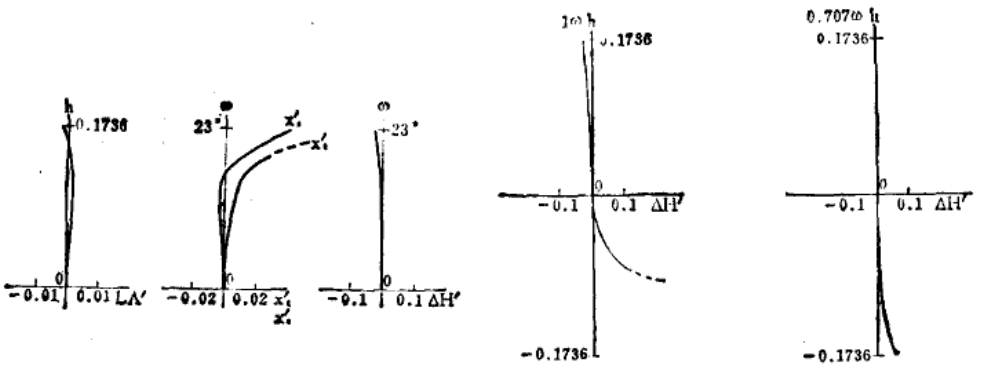


10-03-001-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.00023	0.00020	−0.00101	0.00041	−0.00548	0.589	−4.39%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.0019	−0.0259	0.374	0.043	0.331	0.3901	−0.8233
70	0.0016	−0.0020	0.011	−0.001	0.012	−0.0269	−0.0042

E.F.L = 1.3891 (±23°)

*** 1 = 0.4451, *** 2 = 0.1958

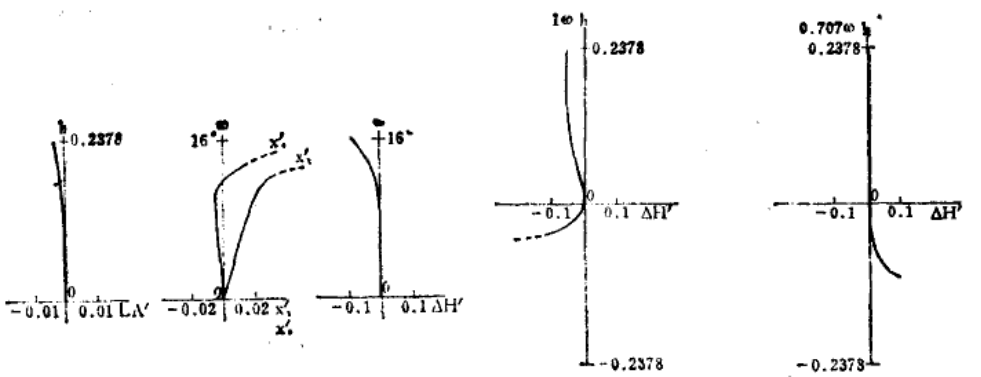


10-03-001-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.00006	0.00031	−0.00099	0.00035	−0.00333	0.545	−15.10%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.0033	−0.0824	1.387	0.214	1.173	0.0643	0.0473
70	−0.0005	−0.0056	0.024	−0.004	0.028	−0.0288	0.2968

E.F.L = 1.9031 (±16°)

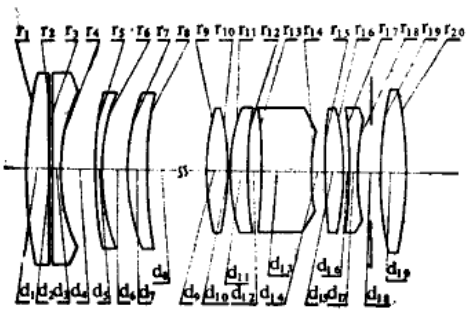
*** 1 = 0.0083, *** 2 = 0.4181



编号：10-03-002

广 角 变 焦 距 物 镜

E.F.L＝1.000～1.905　　B.F.L＝1.301　　FNo.＝4.5　　F.A.＝±32.5°～±17.8°



序号	r	d	n	v	序号	r	d	n	v
1	2.2294	0.0982	1.68893	31.1	11	0.7657	0.0787	1.77250	49.6
2	∞	0.0036			12	2.2293	0.0520		
3	5.6454	0.0446	1.80400	46.6	13	－3.0815	0.2138	1.75520	27.5
4	0.7205	0.1468			14	0.5649	0.0520		
5	1.8979	0.0357	1.80400	46.6	15	2.5820	0.0802	1.71300	53.8
6	0.8814	0.1052			16	－1.0732	＊＊＊2		
7	0.8141	0.0993	1.68893	31.1	17	－2.4264	0.0351	1.80400	46.6
8	1.8776	＊＊＊1			18	1.1287	0.0989*		
9	0.9259	0.0804	1.69350	53.2	19	1.5300	0.1066	1.68250	44.7
10	－11.6518	0.0036			20	－1.5300			

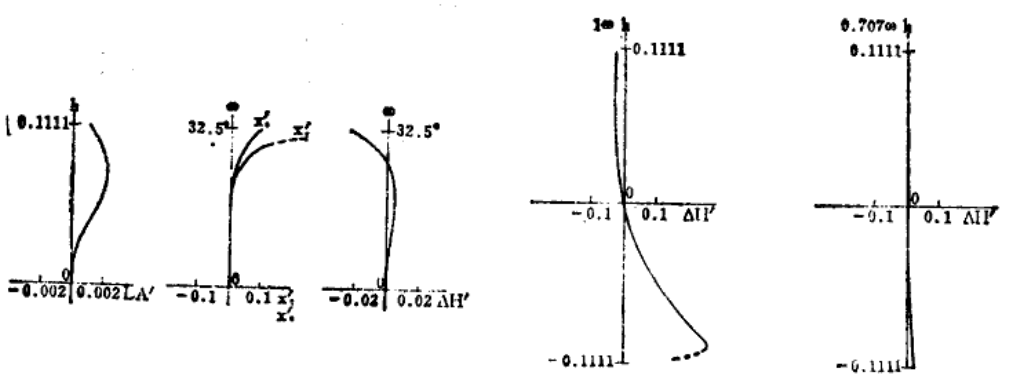
0.0989* = 0.0500 + 0.0489

10-03-002-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.00018	－0.00013	－0.00039	0.00053	0.00614	0.637	－3.2%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0010	－0.0204	0.675	0.090	0.585	0.3086	－0.0681
70	0.0022	0.0071	0.013	0.002	0.011	－0.0058	－0.0024

E.F.L＝1.000（±32.5°）

＊＊＊1＝1.0897；＊＊＊2＝0.0153

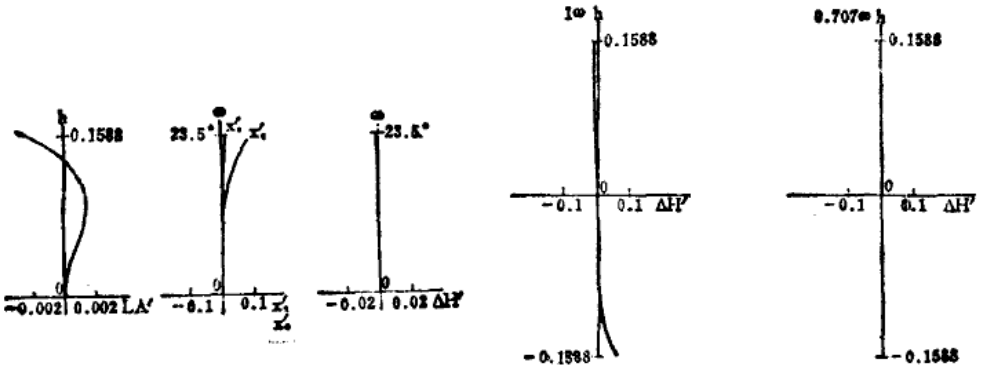


10-03-002-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.00019	-8×10^{-6}	-0.00031	0.00050	0.00053	0.620	-0.14%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.0036	-0.0008	0.085	0.013	0.072	-0.0247	-0.0067
70	0.0015	0.0005	0.009	0.004	0.005	0.0007	-0.0006

E. F. L = 1.428（±23.5°）

＊＊＊ 1 = 0.4649；＊＊＊ 2 = 0.2307

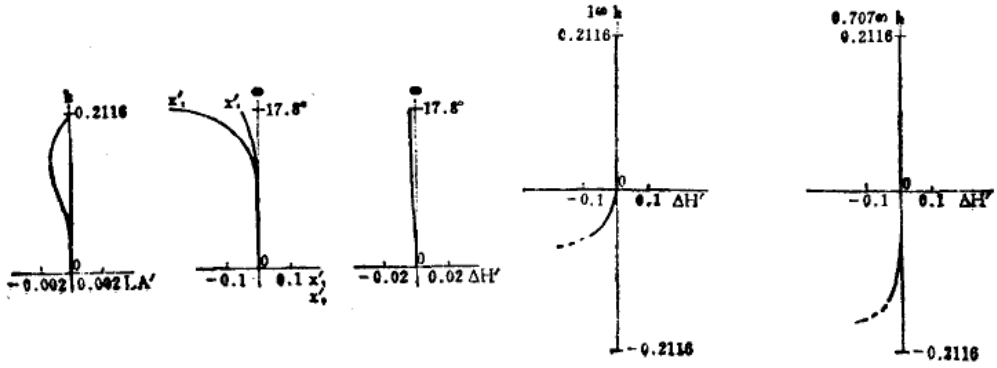


10-03-002-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	-0.00012	0.00028	-0.00059	0.00049	-0.00107	0.611	-0.17%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0	-0.0010	-0.381	-0.048	-0.333	-0.1362	6.3446
70	-0.0017	-0.0018	-0.024	-0.005	-0.019	0.3318	0.0160

E. F. L = 1.905（±17.8°）

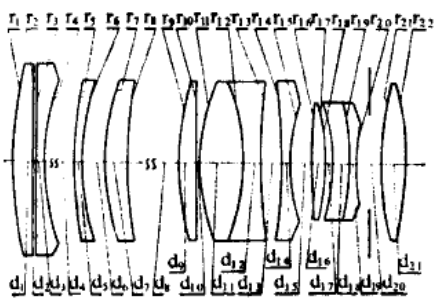
＊＊＊ 1 = 0.1001；＊＊＊ 2 = 0.4704



编号：10-03-003

广 角 变 焦 距 物 镜

E.F.L＝0.999～1.905　　B.F.L＝1.158　　FNo.＝4.5　　F.A.＝±32.5°～±12°



序号	r	d	n	v	序号	r	d	n	v
1	2.6787	0.0875	1.68893	31.3	12	－0.7594	0.0625	1.74400	44.7
2	∞	0.0036			13	3.2187	0.0948		
3	5.2359	0.0446	1.80400	46.6	14	－2.9239	0.0357	1.75520	27.5
4	0.7173	0.1750			15	0.5906	0.0811		
5	2.2041	0.0357	1.80400	46.6	16	3.5237	0.0571	1.74400	44.7
6	0.9501	0.0921			17	－0.9983	＊＊＊2		
7	0.8575	0.0964	1.68893	31.3	18	－6.7003	0.0714	1.51742	52.4
8	2.4357	＊＊＊1			19	－1.0700	0.0268	1.80400	46.6
9	1.1477	0.0714	1.69680	55.5	20	1.1385	0.0982*		
10	－8.0292	0.0036			21	1.5648	0.1071	1.70154	41.2
11	0.7594	0.1875	1.69680	55.5	22	－1.5648			

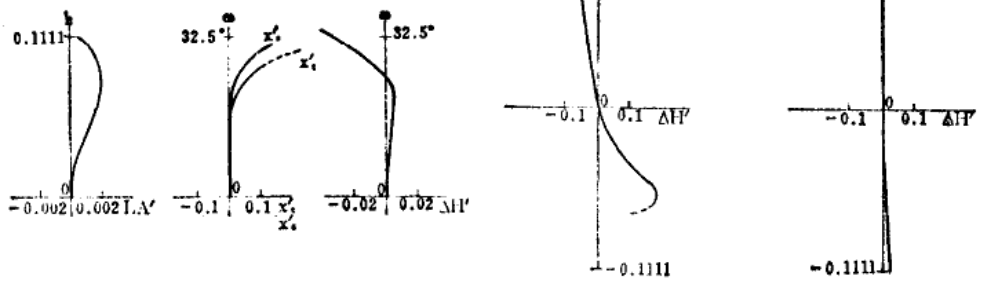
0.0982* = 0.0500 + 0.0482

10-03-003-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.00016	－0.00020	－0.00002	0.00056	0.00018	0.636	－8.6%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0003	－0.0551	1.436	0.154	1.282	4.4778	0.4269
70	0.0019	0.0054	0.030	0.006	0.024	－0.0057	－0.0026

E.F.L＝0.999（±32.5°）

＊＊＊1 = 1.0929，＊＊＊2 = 0.0214

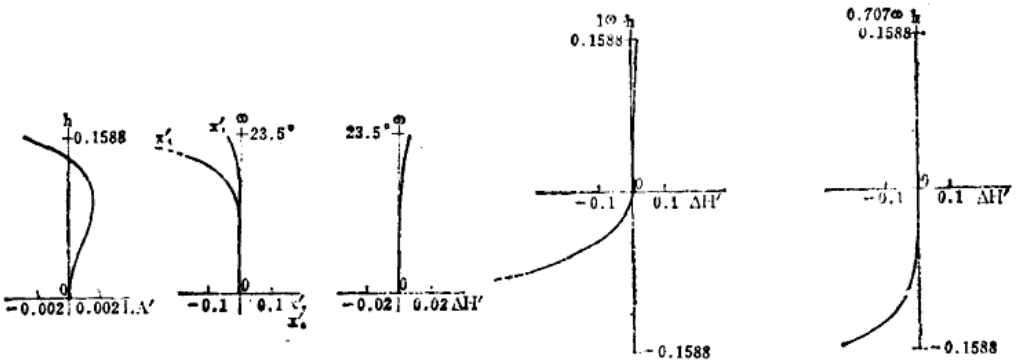


10-03-003-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.00020	−0.00016	0.00002	0.00053	−0.00250	0.620	1.12%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{T}_1$	$K\dot{T}_{0.7}$
100	−0.0032	0.0069	−0.803	−0.053	−0.750	8.7433	0.3557
70	0.0017	−0.0011	−0.021	0.002	−0.023	0.1314	0.0230

E.F.L = 1.428 (±23.5°)

＊＊＊1 = 0.4605, ＊＊＊2 = 0.2395

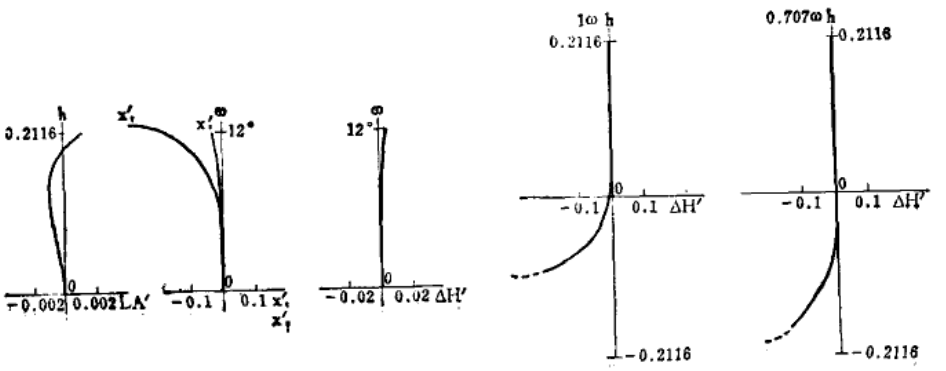


10-03-003-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	−0.00011	0.00018	−0.00028	0.00022	−0.00070	0.404	0.57%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{T}_1$	$K\dot{T}_{0.7}$
100	0.0014	0.0023	−0.316	−0.033	−0.283	0.5719	0.2976
70	−0.0012	−0.0006	−0.028	−0.004	−0.024	0.2160	0.0482

E.F.L = 1.905 (±12°**)

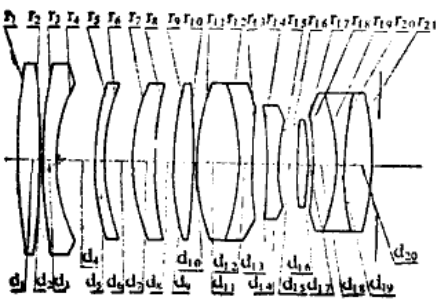
＊＊＊1 = 0.0912, ＊＊＊2 = 0.4820



编号：10-03-004

广 角 变 焦 距 物 镜

E.F.L＝1.000～1.691　　B.F.L＝1.241　　FNo.＝4.6　　F.A.＝±30°～16°**



序号	r	d	n	ν	序号	r	d	n	ν
1	10.3925	0.0867	1.72151	29.2	12	－0.7088	0.0542	1.74400	44.7
2	－10.3925	0.0043			13	3.7858	0.0608		
3	4.1717	0.0542	1.80400	46.6	14	－2.4017	0.0434	1.75520	27.5
4	0.6955	0.1601			15	0.5793	0.0770		
5	1.3798	0.0434	1.80400	46.6	16	25.0836	0.0564	1.77250	49.6
6	0.8548	0.1276			17	－0.8320	＊＊＊2		
7	0.7972	0.0932	1.72151	29.2	18	－2.1170	0.0867	1.62230	53.2
8	1.5120	＊＊＊1			19	－0.6173	0.0325	1.80400	46.6
9	1.1168	0.0759	1.72000	50.2	20	1.1806	0.1344	1.70154	41.2
10	－10.4795	0.0043			21	－1.1806			
11	0.7088	0.1817	1.69350	53.2					

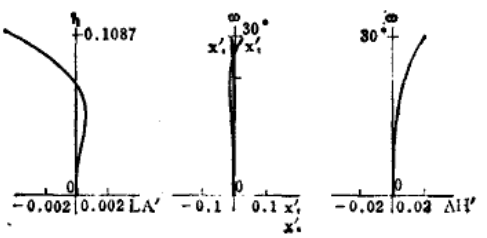
L'_{p21} = 0.0200

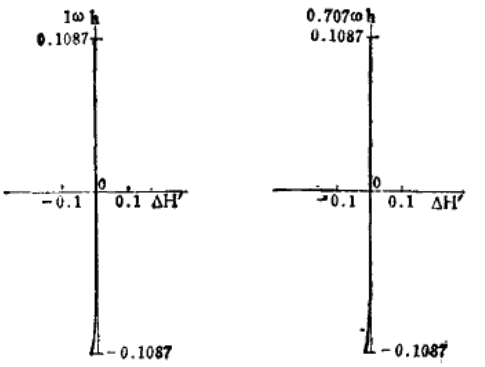
10-03-004-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.00008	0.00005	－0.00043	0.00043	0.00912	0.577	3.4%
h 或 ω %	LA′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	－0.0053	0.0198	0.008	－0.004	0.012	0.0111	0.0013
70	－0.0001	0.0076	－0.014	－0.001	－0.013	0.0047	0.0008

E.F.L＝1.000（±30°**）

＊＊＊1＝0.8186，＊＊＊2＝0.0156



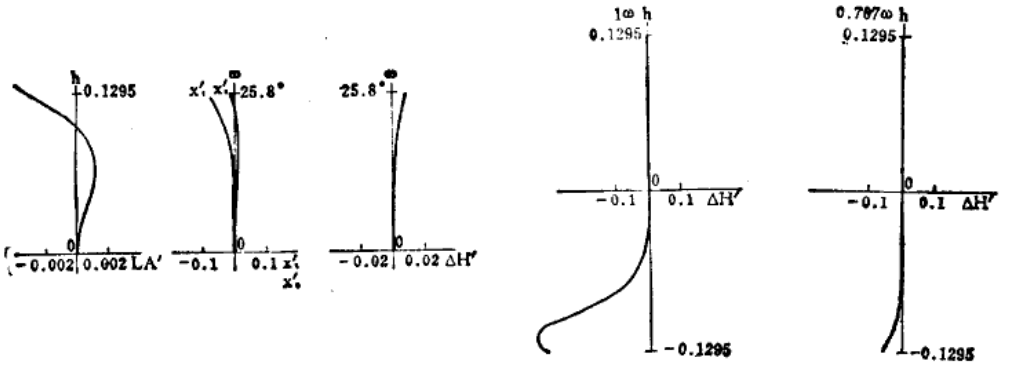


10-03-004-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.00017	-0.00008	-0.00012	0.00043	0.00393	0.575	1.5%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.0053	0.0090	-0.080	-0.005	-0.075	0.1603	0.0817
70	0.0010	0.0029	-0.006	0.002	-0.008	0.0381	0.0057

E.F.L = 1.192 (±25.8°)

***1 = 0.5438, ***2 = 0.1303

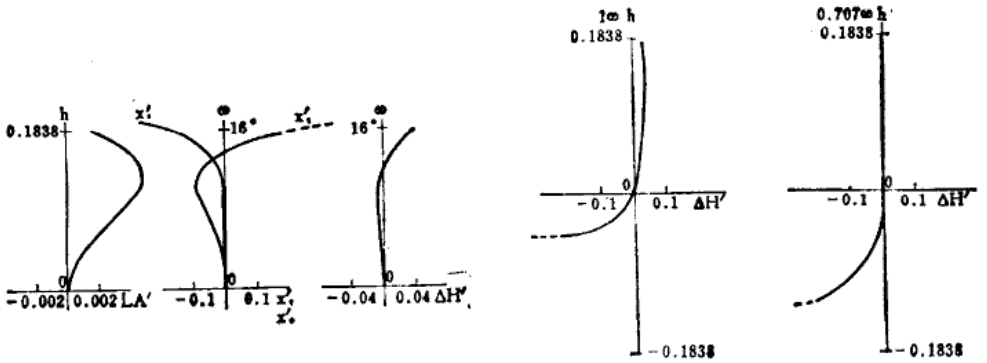


10-03-004-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.00033	-0.00041	0.00054	0.00030	-0.00148	0.484	8.9%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0014	0.0431	5.288	-0.300	5.588	1.0856	8.1920
70	0.0048	-0.0006	-0.095	-0.002	-0.093	0.2574	0.1021

E.F.L = 1.691 (±16°**)

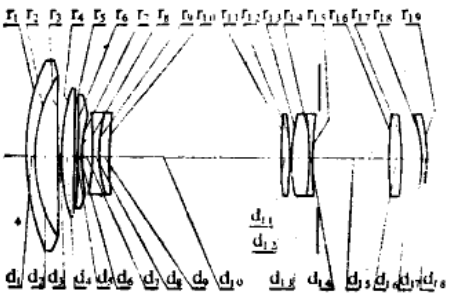
***1 = 0.1222, ***2 = 0.4277



编号：10-03 005

近摄性能好的小型变焦距物镜

E.F.L＝72.002～193.392　B.F.L＝51.05～45.89　FNo.＝4　F.A.＝±15.7°～±5.7°



序号	r	d	n	v	序号	r	d	n	v
1	78.89	3.50	1.805	25.5	11	80.69	3.50	1.487	70.4
2	42.10	9.00	1.665	51.7	12	－195.77	0.20		
3	6349.49	0.35			13	32.44	6.50	1.487	70.4
4	71.28	6.00	1.482	71.1	14	－90.94	1.50	1.793	26.0
5	－2197.53	＊＊＊1			15	212.82	32.94°		
6	－277.73	2.00	1.785	48.5	16	225.23	5.00	1.805	25.5
7	48.38	4.80			17	－131.05	8.02		
8	－100.61	2.00	1.745	48.5	18	－24.27	2.00	1.809	40.4
9	28.54	4.00	1.817	25.0	19	－55.49			
10	201.69	＊＊＊2							

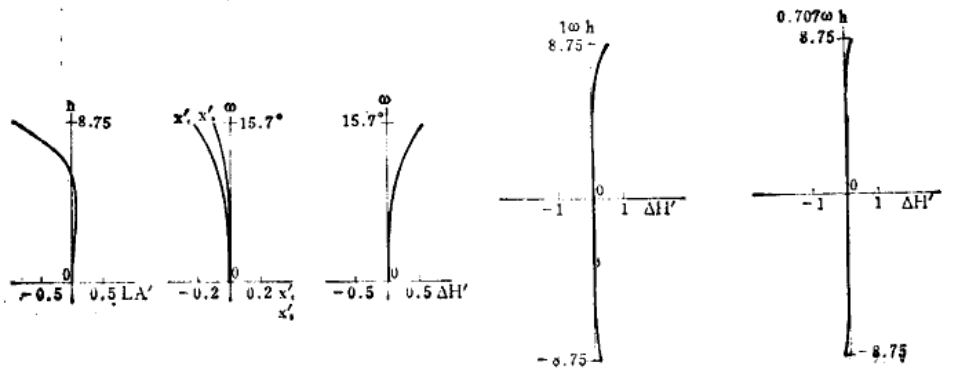
32.94° = 2.00 + 30.94

10-03-005-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.01617	0.00789	0.00091	0.00098	0.13024	20.2	2.5%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.998	0.511	－0.240	－0.095	－0.145	－0.3033	－0.0410
70	－0.035	0.174	－0.074	－0.023	－0.051	－0.0785	－0.0036

E.F.L＝72.002（±15.7°）

＊＊＊1＝0.50，＊＊＊2＝71.45

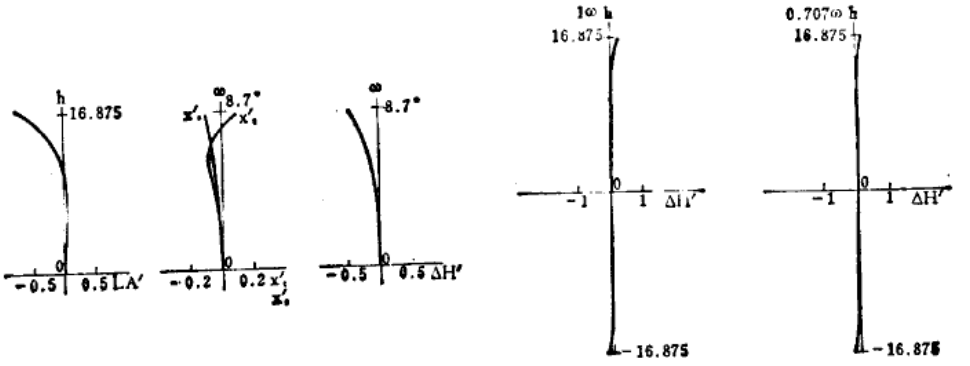


10-03-005-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.0103	0.0029	−0.0051	0.0010	−0.1166	20.8	−2.7%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.862	−0.572	0.116	−0.113	−0.229	−0.0648	−0.0117
70	−0.071	−0.183	−0.120	−0.062	−0.058	−0.0409	−0.0013

E.F.L = 136.419 (±8.7°)

＊＊＊1 = 15.31; ＊＊＊2 = 35.97

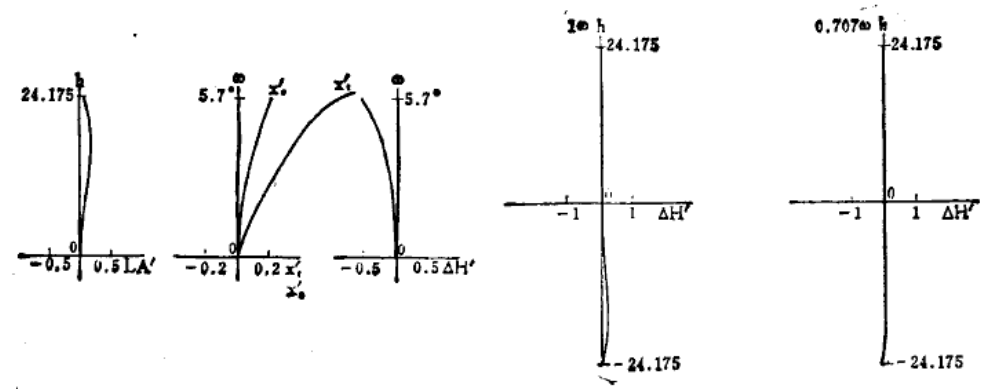


10-03-005-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.0225	−0.0038	0.0058	0.0009	−0.1495	19.3	−3.3%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.044	−0.647	0.832	0.209	0.623	0.0345	−0.0353
70	0.215	−0.219	0.348	0.106	0.242	0.0472	−0.0093

E.F.L = 193.392 (±5.7°)

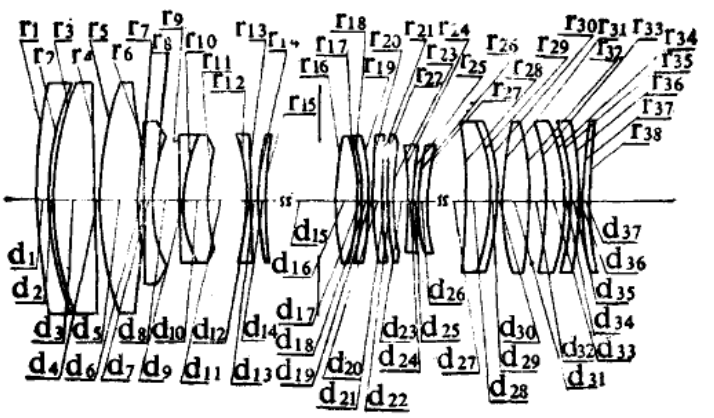
＊＊＊1 = 20.50; ＊＊＊2 = 0.50



编号：10-03-006

较长焦距大倍率变焦距摄影机物镜

E.F.L=20.405～78.431　B.F.L=62.98　FNo.=2.8　F.A.=±16.8°**～±4.4°**



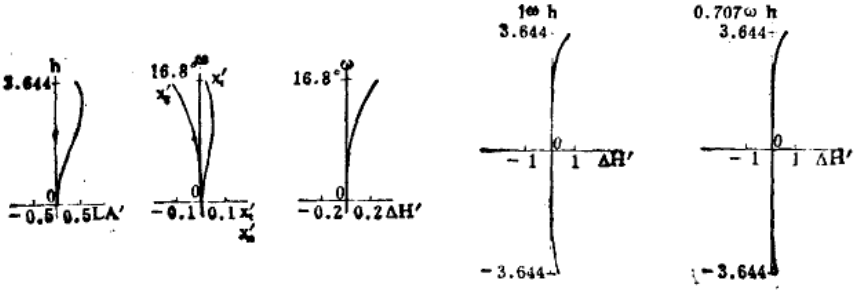
序号	r	d	n	v	序号	r	d	n	v
1	93.271	2.200	1.80518	25.43	20	104.099	2.000	1.51680	64.04
2	44.793	0.380			21	122.615	1.072		
3	45.317	7.200	1.62135	61.28	22	106.463	1.000	1.74000	28.28
4	687.219	0.100			23	53.668	2.501		
5	39.723	6.500	1.62135	61.28	24	-102.225	1.000	1.80500	40.97
6	168.499	＊＊＊1			25	77.932	0.350		
7	305.594	1.350	1.62135	61.28	26	30.978	1.815	1.60000	64.38
8	16.887	4.853			27	31.935	＊＊＊4		
9	622.568	1.000	1.51680	64.04	28	-177.586	4.000	1.62041	60.29
10	17.387	4.000	1.76182	26.55	29	-30.959	1.008	1.80518	25.41
11	47.531	＊＊＊2			30	-36.235	0.098		
12	-34.827	1.000	1.62135	61.28	31	44.514	4.536	1.60000	64.38
13	1194.443	0.992			32	-64.713	＊＊＊5		
14	69.686	1.500	1.62135	61.28	33	-53.602	3.000	1.56883	55.99
15	196.063	(＊＊＊3+2.608)*			34	-37.462	0.563		
16	71.726	3.500	1.66892	45.01	35	-33.731	1.500	1.76182	26.55
17	-41.897	0.554			36	-60.904	0.132		
18	-30.580	1.005	1.74000	37.53	37	103.275	1.001	1.60000	64.38
19	-61.979	0.200			38	70.860			

10-03-006-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_6	HI	QP（1 ω）
	0.0926	0.0072	0.0023	−0.0115	0.1070	6.16	4.3%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.400	0.26	0.020	−0.124	0.144	−0.368	−0.034
70	0.516	0.09	0.065	−0.037	0.102	−0.317	−0.020

E. F. L = 20.405（± 16.8′″）

＊＊＊1 = 0.903；＊＊＊2 = 12.219；＊＊＊3 = 27.437；（＊＊＊3 + 2.608）′ = 27.437 + 2.608；＊＊＊4 = 22.370；＊＊＊5 = 2.831

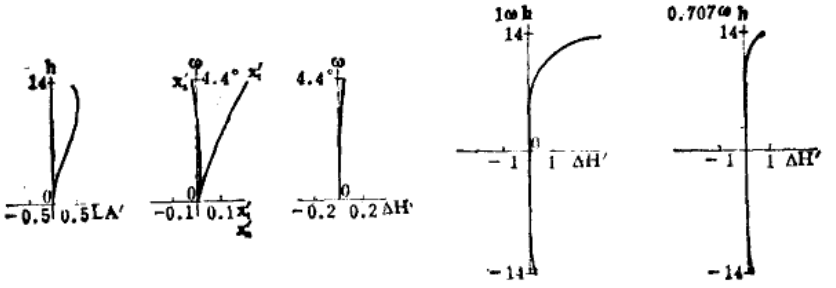


10-03-006-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_6	HI	QP（1 ω）
	0.0917	0.0270	0.0113	−0.0111	0.0238	6.03	1.1%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.403	0.06	0.244	−0.012	0.256	−1.686	−0.153
70	0.513	0.02	0.162	0.001	0.161	−0.491	−0.038

E. F. L = 78.431（± 4.4′″）

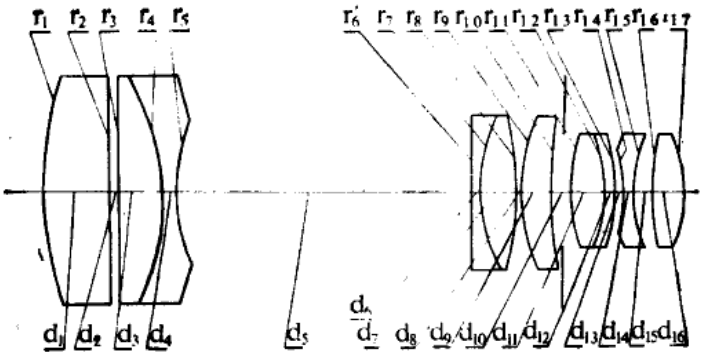
＊＊＊1 = 25.903；＊＊＊2 = 12.777；＊＊＊3 = 1.879；（＊＊＊3 + 2.608）′ = 1.879 + 2.608；＊＊＊4 = 22.370；＊＊＊5 = 2.831



编号：10-03-007

大孔径8mm摄影机变焦距物镜

E.F.L＝11.44～33.85　B.F.L＝12.21　FNo.＝1.8　F.A.＝±20°**～6.6°**



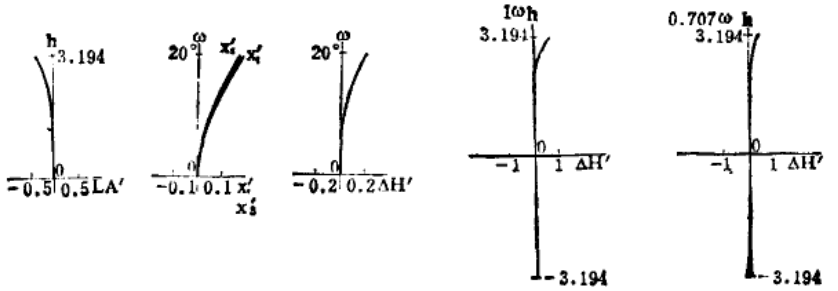
序　号	r	d	n	ν
1	39.20	7.50	1.51633	64.1
2	∞	＊＊＊1		
3	－440.70	5.20	1.71736	29.5
4	－29.76	1.45	1.69350	53.3
5	17.00	＊＊＊2		
6	944.50	1.00	1.80518	25.4
7	18.10	4.25	1.60311	60.7
8	－45.41	0.20		
9	16.90	3.85	1.69350	53.3
10	67.97	＊＊＊3°		
11	16.40	4.00	1.69895	30.1
12	－12.90	1.00	1.71300	54.0
13	－28.50	1.00		
14	－13.33	1.15	1.80518	25.4
15	10.15	1.80		
16	19.13	3.50	1.71300	54.0
17	－12.10			

10-03-007-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0103	0.0167	0.0033	0.0339	0.1104	4.16	4.5%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.390	0.188	0.195	0.188	0.007	−0.272	−0.031
70	−0.042	0.064	0.102	0.098	0.004	−0.145	−0.005

E.F.L=11.44（±20°**）

1=0.80；2=33.82；***3°=2.14°=1.14+1.00

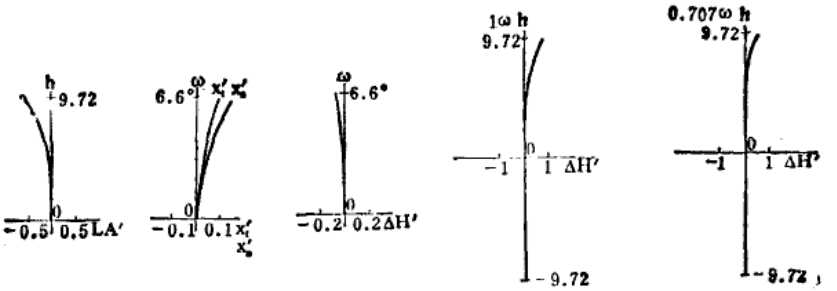


10-03-007-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	−0.0465	0.0081	−0.0048	0.0317	−0.0381	3.91	−1.7%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.623	−0.070	0.110	0.157	−0.047	−0.313	−0.058
70	−0.192	−0.024	0.052	0.080	−0.028	−0.190	−0.025

E.F.L=33.85（±6.6°**）

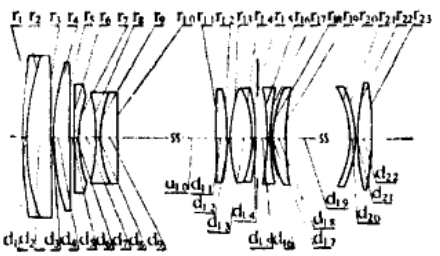
1=19.30；2=4.46；***3°=13.00°=12.00+1.00



编号：10-03-008

高倍率和高性能的35mm照相机变焦距物镜

E.F.L＝50.000～297.265　　B.F.L＝40.07　　FNo.＝4.5　　F.A.＝±12°**～2°**



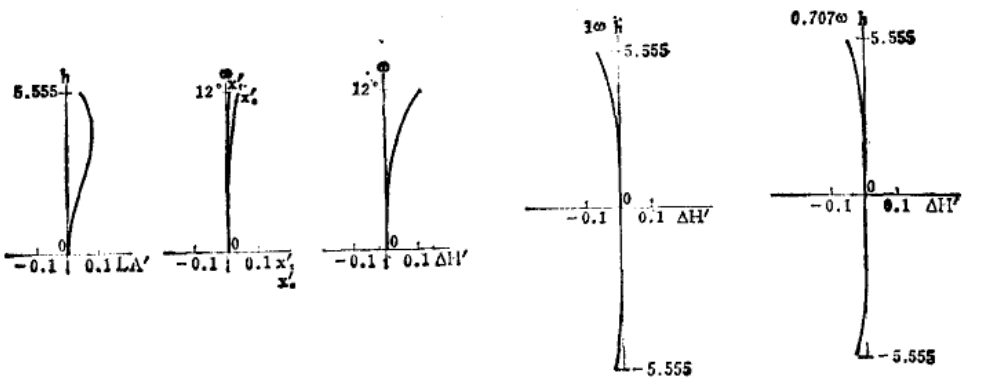
序号	r	d	n	v	序号	r	d	n	v
1	308.300	2.000	1.74950	35.0	13	68.500	10.200	1.52000	70.1
2	111.000	12.000	1.50032	81.9	14	－48.650	2.000	1.80518	25.5
3	－388.141	0.200			15	－97.436	＊＊＊3°		
4	106.700	8.000	1.52000	70.1	16	－123.500	2.000	1.71300	53.9
5	2072.540	＊＊＊1			17	92.434	1.502		
6	2900.000	2.000	1.71300	53.9	18	35.470	5.400	1.56138	45.3
7	46.959	9.200			19	88.853	58.500		
8	－65.200	2.000	1.62041	60.3	20	－21.321	2.400	1.76684	46.6
9	39.920	7.100	1.68893	31.1	21	－34.769	0.200		
10	－511.394	＊＊＊2			22	78.649	5.400	1.51823	59.0
11	415.900	5.100	1.52000	70.1	23	－131.454			
12	－83.802	0.200							

10-03-008-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0069	0.0017	－0.0002	0.0012	－0.0116	10.60	1.02%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{f1}'	$K_{f0.7}'$
100	0.045	0.109	0.013	0.026	－0.013	0.037	0.006
70	0.083	0.037	0.004	0.014	－0.010	0.036	0.009

E.F.L＝50.000（±12°**）

＊＊＊1＝1.107；＊＊＊2＝104.031；＊＊＊3°＝4.512°＝2.512＋2.000

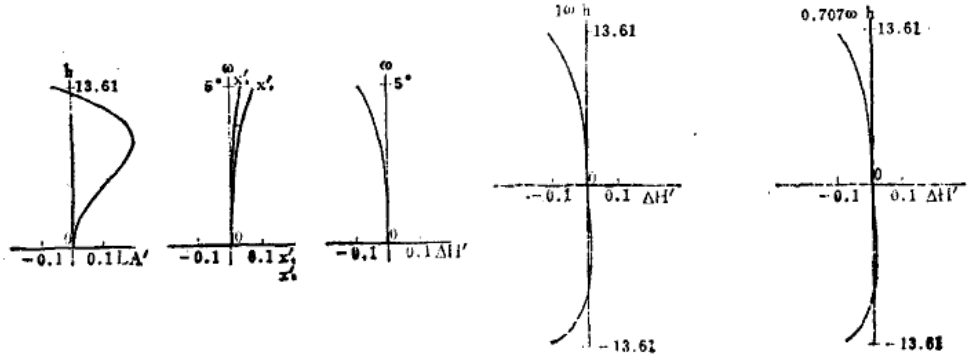


10-03-008-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.0213	0.0014	0.0001	0.0012	−0.0269	10.72	−0.86%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.076	−0.092	0.082	0.046	0.036	0.124	0.026
70	0.222	−0.032	0.039	0.026	0.013	0.100	0.024

E.F.L=122.504 (± 5 ')

＊＊＊1 =41.977, ＊＊＊2 =48.890, ＊＊＊3 ' =18.783' =16.783+2.000

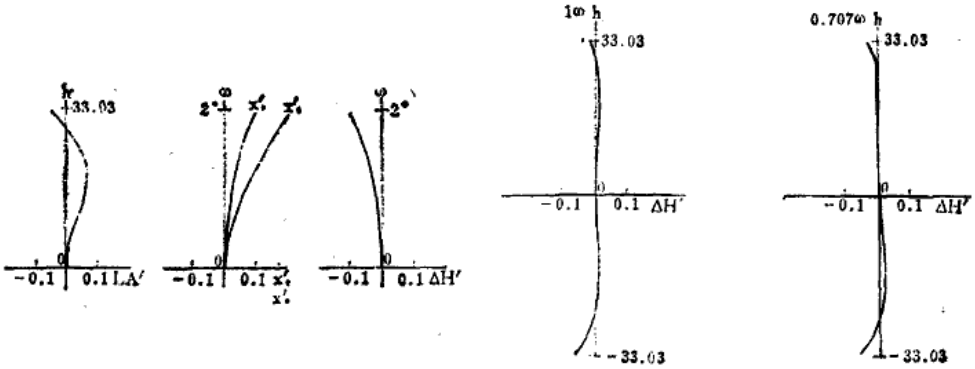


10-03-008-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.0092	−0.0059	0.0014	0.0011	−0.0243	10.40	−1.01%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.060	−0.106	0.208	0.088	0.120	0.053	−0.009
70	0.065	−0.037	0.108	0.048	0.060	0.040	−0.005

E F.L=297.265 (±2''')

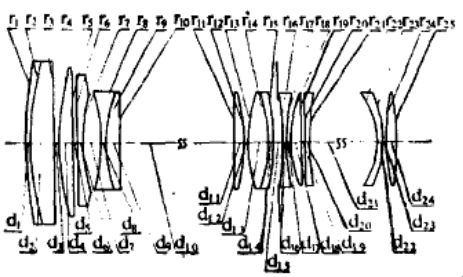
＊＊＊1 =67.285, ＊＊＊2 =2.247, ＊＊＊3 ' =40.116' =38.116+2.000



编号：10-03-009

高倍率和高性能的35mm照相机变焦距物镜

E.F.L＝50.000～297.263　　B.F.L＝39.46　　FNo.＝4.5　　F.A.＝±12°～±2°**



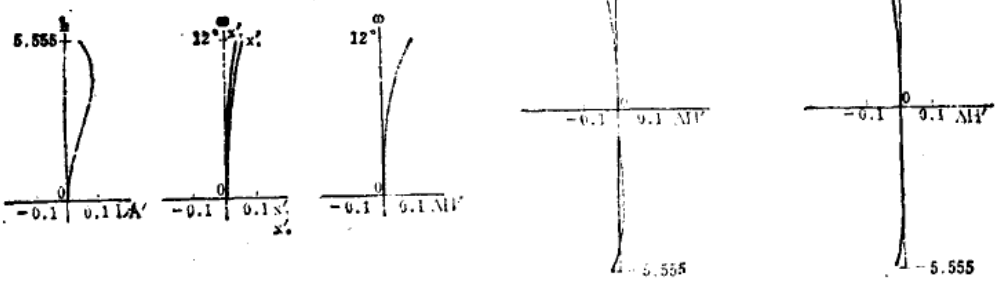
序号	r	d	n	ν	序号	r	d	n	ν
1	308.300	2.000	1.74950	35.0	14	－48.650	2.000	1.80518	25.5
2	111.000	12.000	1.50032	81.9	15	－97.436	＊＊＊3°		
3	－388.141	0.200			16	－132.000	2.000	1.69350	53.6
4	106.700	8.000	1.52000	70.1	17	84.224	1.542		
5	2072.540	＊＊＊1			18	35.200	5.500	1.53256	46.0
6	2900.000	2.000	1.71300	53.9	19	401.093	1.000		
7	46.959	9.200			20	941.600	2.000	1.74443	49.4
8	－65.200	2.000	1.62041	60.3	21	135.500	57.500		
9	39.920	7.100	1.68893	31.1	22	－21.470	2.500	1.76684	46.6
10	－511.393	＊＊＊2			23	－35.094	0.200		
11	415.900	5.100	1.52000	70.1	24	70.000	5.500	1.51783	61.1
12	－83.802	0.200			25	－137.617			
13	68.500	10.200	1.52000	70.1					

10-03-009-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0078	0.0021	－0.0002	0.0020	0.0338	10.60	1.11%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T_1}	$K_{T_{0.7}}$
100	0.044	0.117	0.035	0.054	－0.019	0.043	0.009
70	0.093	0.040	0.014	0.028	－0.014	0.040	0.011

E.F.L＝50.000（±12°**）

＊＊＊1＝1.107，＊＊＊2＝104.031，＊＊＊3°＝4.459°＝2.459＋2.000

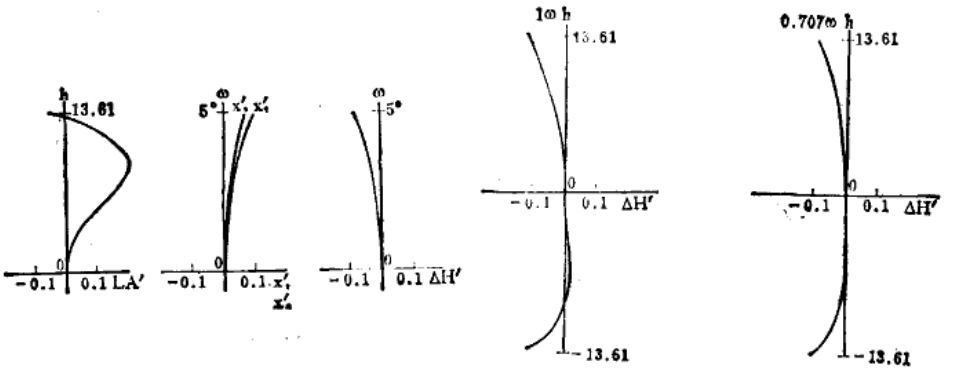


10-03-009-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0222	0.0018	2×10^{-5}	0.0020	-0.0170	10.72	-0.77%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.078	-0.083	0.098	0.073	0.025	0.130	0.029
70	0.232	-0.029	0.047	0.039	0.008	0.104	0.026

E. F. L = 122.505 (±5°)

＊＊＊1 = 41.977；＊＊＊2 = 48.890；＊＊＊3 ° = 18.729° = 16.729 + 2.000

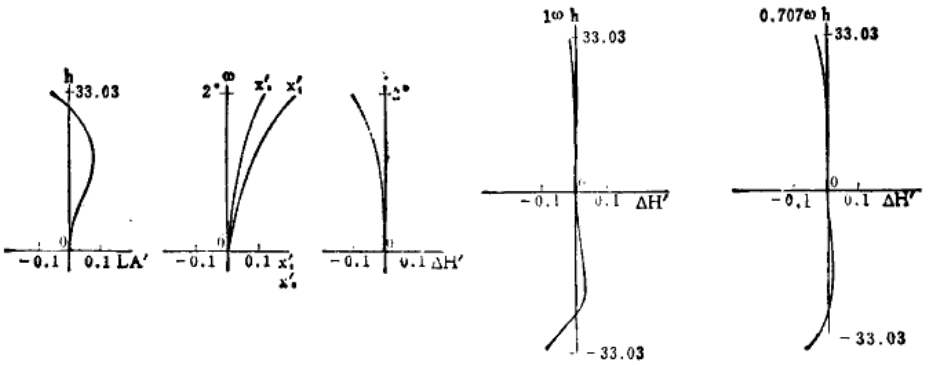


10-03-009-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0101	-0.0056	0.0013	0.0019	-0.0214	10.40	-0.93%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.061	-0.097	0.222	0.114	0.108	0.058	-0.006
70	0.074	-0.034	0.115	0.061	0.054	0.044	-0.003

E. F. L = 297.263 (±2°°°)

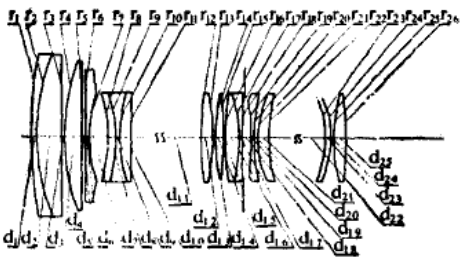
＊＊＊1 = 67.286；＊＊＊2 = 2.247；＊＊＊3 ° = 40.063° = 38.063 + 2.000



编号：10-03-010

高倍率和高性能的35mm照相机变焦距物镜

E.F.L＝50.000～295.206　　B.F.L＝39.73　　FNo.＝4.5　　F.A.＝±12°**～±2°**



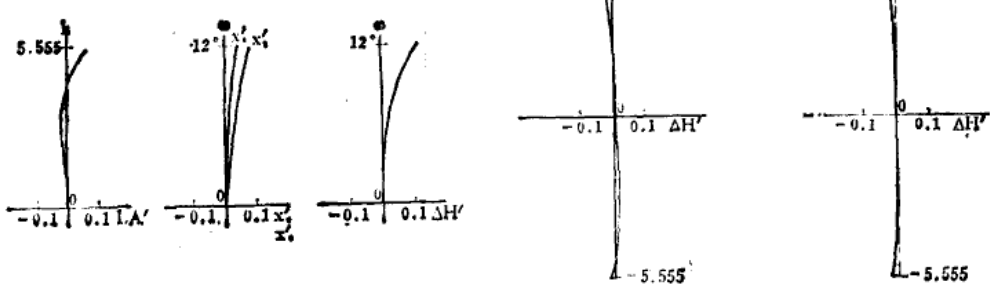
序号	r	d	n	ν	序号	r	d	n	ν
1	308.300	2.000	1.74950	35.0	14	109.000	4.500	1.52000	70.1
2	112.000	12.500	1.50032	81.9	15	－208.886	0.200		
3	－401.400	0.200			16	158.100	6.300	1.52000	70.1
4	107.800	8.500	1.52000	70.1	17	－70.590	2.000	1.80518	25.5
5	2970.199	＊＊＊1			18	－393.102	＊＊＊3°		
6	3512.500	2.000	1.71300	53.9	19	－116.300	2.000	1.71300	53.9
7	48.500	9.600			20	99.709	0.963		
8	－62.150	3.500	1.66998	39.2	21	33.760	5.200	1.56732	42.8
9	－48.310	2.000	1.56384	60.8	22	82.393	54.700		
10	63.040	5.109	1.80518	25.5	23	－20.400	2.300	1.76684	46.6
11	447.757	＊＊＊2			24	－33.267	0.200		
12	139.600	5.200	1.52000	70.1	25	75.250	5.200	1.51823	59.0
13	－109.444	0.200			26	－124.176			

10-03-010-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1ω）
	－0.0018	0.0014	0.0006	0.0007	0.0416	10.60	1.10%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.074	0.116	0.086	0.038	0.048	0.032	0.005
70	－0.006	0.040	0.045	0.022	0.023	0.030	0.008

E.F.L＝50.000（±12°**）

＊＊＊1＝1.879，＊＊＊2＝102.313，＊＊＊3°＝3.249°＝1.249＋2.00

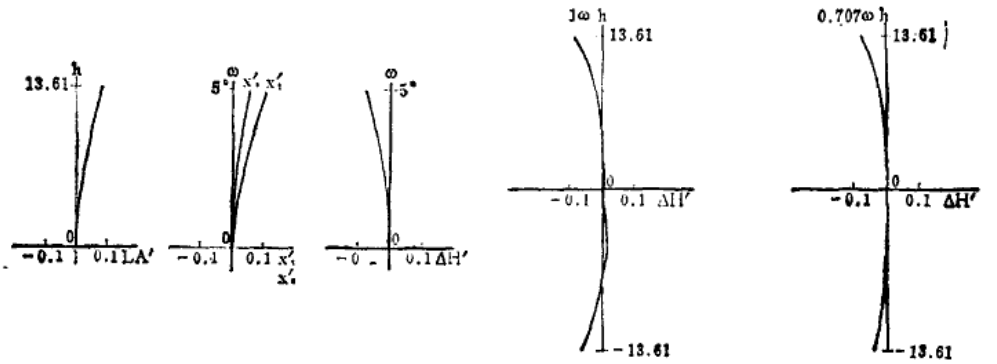


10-03-010-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0029	0 0037	0.0005	0.0007	-0.0173	10.71	-0.85%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.082	-0.091	0.110	0.040	0.070	0.075	0.024
70	0.047	-0.032	0.054	0.024	0.030	0.063	0.021

E. F. L = 122.459 (± 5°)

＊＊＊ 1 = 41.998; ＊＊＊ 2 = 47.342; ＊＊＊ 3 ° = 18.099° = 16.099 + 2.000

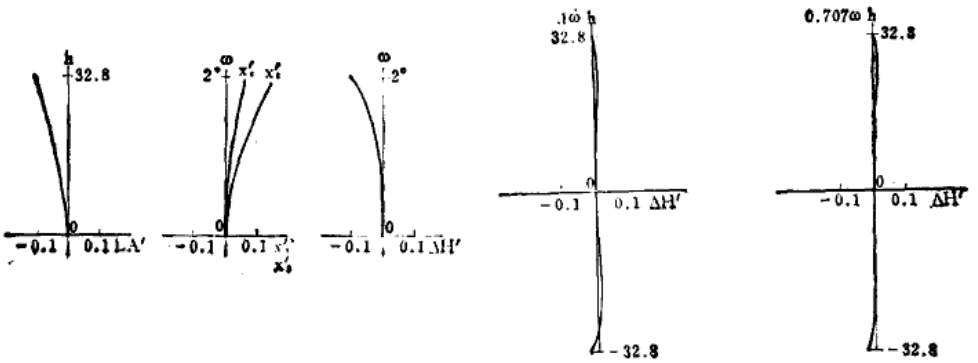


10-03-010-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	-0.0043	-0.0014	0.0010	0.0006	-0.0227	10.33	-1.01%
h 或 ω %	LA′	ΔH′	x_t	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.117	-0.105	0.157	0.056	0.101	0.005	-0.011
70	-0.062	-0.037	0.079	0.031	0.048	0.009	-0.005

E. F. L = 295.206 (± 2 °)

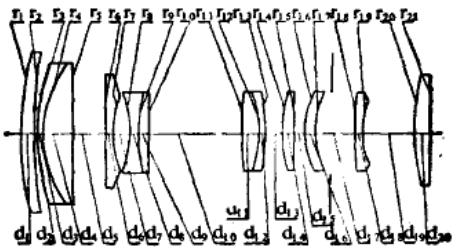
＊＊＊ 1 = 66.699; ＊＊＊ 2 = 0.629; ＊＊＊ 3 ° = 40.111° = 38.111 + 2.000



编号：10-03-011

小型变焦距望远物镜

E.F.L=77.064～144.997　B.F.L=56.15　FNo.=4　F.A.=±16°～±8.25°



序　号	r	d	n	ν
1	86.431	3.00	1.52542	64.5
2	180.812	0.20		
3	51.821	1.37	1.80518	25.4
4	37.630	7.15	1.48749	70.1
5	−750.150	＊＊＊1		
6	−640.000	2.00	1.61800	63.4
7	34.040	4.26		
8	−40.350	1.50	1.61800	63.4
9	51.200	2.75	1.80518	25.4
10	−2335.559	＊＊＊2		
11	107.650	4.50	1.64250	58.4
12	−33.299	1.50	1.80518	25.4
13	−63.102	＊＊＊3		
14	44.962	2.79	1.50048	65.9
15	−1774.426	2.54		
16	23.000	2.65	1.48749	70.1
17	37.630	9.70*		
18	180.000	2.31	1.80610	40.9
19	21.730	12.55		
20	52.000	3.50	1.64850	53.0
21	−299.940			

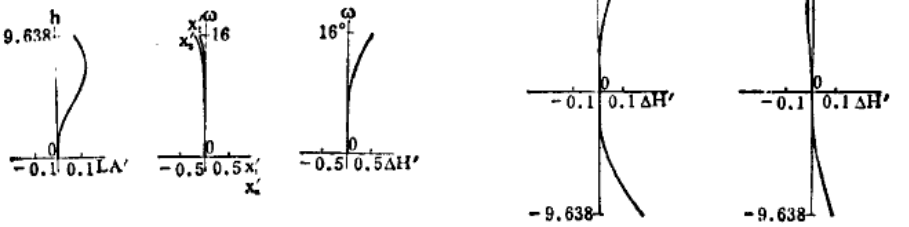
9.70* = 4.00 + 5.70

10-03-011-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.0125	0.0072	0.0010	0.0088	0.0426	22.07	2.26%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.086	0.500	-0.143	0.190	0.047	-0.151	-0.058
70	0.128	0.153	0.032	0.032	0	-0.041	-0.009

E.F.L = 77.064 (±16°)

*** 1 = 8.109; *** 2 = 22.851; *** 3 = 3.585

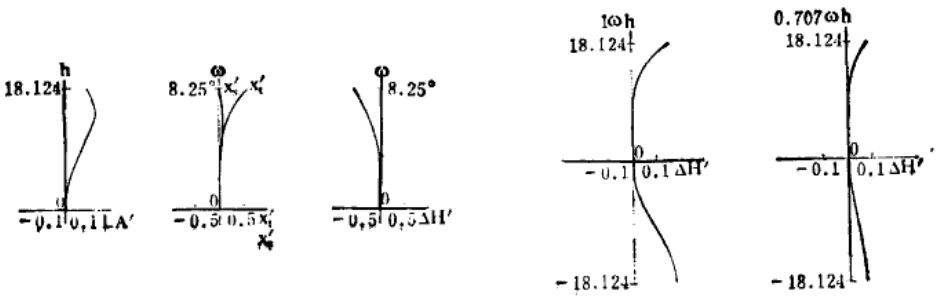


10-03-011-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.0105	1×10^{-6}	-0.0008	0.0079	-0.1611	21.02	-2.88%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.096	-0.607	0.631	0.011	0.620	-0.167	-0.079
70	0.116	-0.212	0.151	0.066	0.085	-0.080	-0.031

E.F.L = 144.997 (±8.25°)

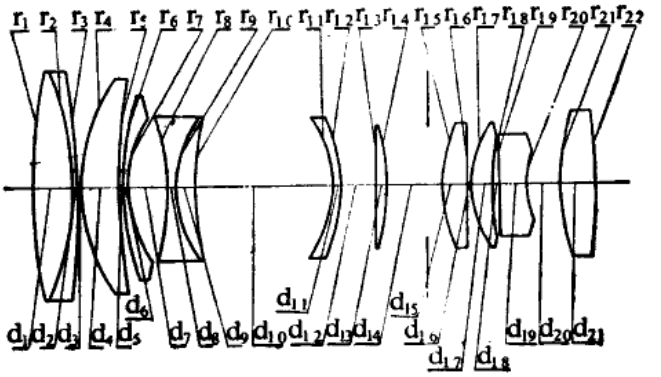
*** 1 = 27.579; *** 2 = 1.401; *** 3 = 5.562



编号：10-03-012

改善近距短焦像质的变焦距物镜

E.F.L＝12.513～49.001　B.F.L＝13.39　FNo.＝1.85　F.A.＝±16°～±4.1°



序号	r	d	n	ν	序号	r	d	n	ν
1	104.999	7.29	1.54771	62.9	12	-24.203	＊＊＊3		
2	-55.249	0.84	1.80518	25.4	13	526.735	2.12	1.77250	49.6
3	-183.803	0.07			14	-35.906	9.21*		
4	33.220	6.03	1.65160	58.6	15	20.524	3.36	1.56873	63.1
5	123.546	＊＊＊1			16	-268.840	0.10		
6	41.695	1.17	1.88300	42.1	17	13.705	3.50	1.51821	65.0
7	11.412	6.93			18	63.658	0.89		
8	-31.362	0.76	1.48749	70.1	19	-6730.378	4.45	1.80518	25.4
9	15.191	3.48	1.80518	25.4	20	10.283	5.49		
10	56.996	＊＊＊2			21	21.604	5.67	1.67000	57.4
11	-17.074	1.25	1.61800	63.4	22	-90.913			

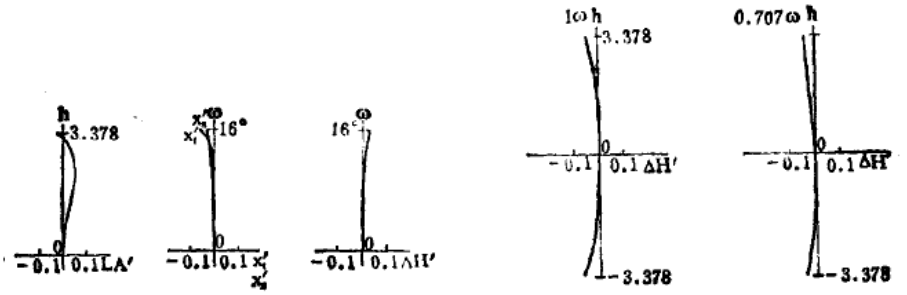
9.21*＝7.00＋2.21

10-03-012-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0311	0.0040	-0.0034	-0.0028	0.0582	3.58	0.78%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	Kf_1	$Kf_{0.7}$
100	-0.032	0.028	-0.070	-0.041	-0.029	0.057	0.021
70	0.055	0.010	-0.003	-0.008	0.005	0.033	0.019

E.F.L=12.513(±16°**)

***1=0.10; ***2=23.87; ***3=5.68

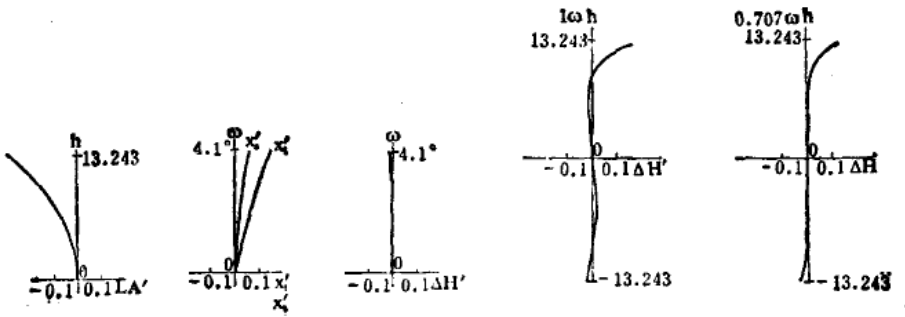


10-03-012-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	-0.0284	0.0054	0.0129	-0.0027	-0.0063	3.53	-0.19%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	Kf_1	$Kf_{0.7}$
100	-0.373	-0.007	0.168	0.052	0.116	-0.070	-0.001
70	-0.136	-0.003	0.105	0.030	0.075	-0.045	-0.001

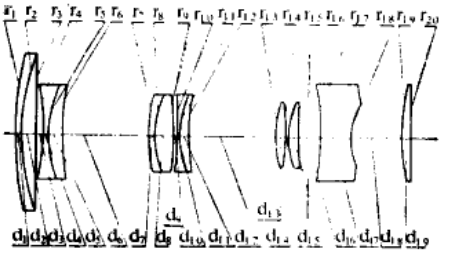
E.F.L=49.001(±4.1°**)

***1=21.66; ***2=2.45; ***3=5.54



编号：10-03-013

结构简单的光学补偿式变焦距物镜



E.F.L＝86.994～195.017　B.F.L＝51.63　FNo.＝3.5　F.A.＝±14.4°～±6.2°

序号	r	d	n	v	序号	r	d	n	v
1	197.685	2.80	1.74000	28.3	11	41.721	3.60	1.69895	30.1
2	105.925	6.60	1.64000	60.1	12	84.318	＊＊＊4		
3	－925.180	＊＊＊1			13	60.634	5.30	1.58913	61.1
4	－144.500	2.00	1.73400	51.5	14	－187.325	0.20		
5	47.000	6.10	1.75520	27.5	15	43.870	4.50	1.67000	57.4
6	137.977	＊＊＊2			16	224.000	10.15*		
7	87.527	2.30	1.84666	23.9	17	－180.000	15.00	1.80518	25.4
8	45.225	9.70	1.73400	51.5	18	30.800	25.50		
9	－198.474	＊＊＊3			19	95.450	3.60	1.80518	25.4
10	－195.727	1.60	1.64000	60.1	20	－1100.000			

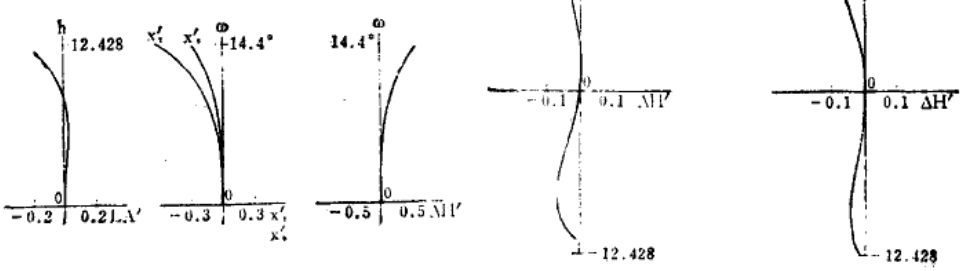
10.15* = 5.00 + 5.15

10-03-013-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0052	0.0238	0.0055	0.0013	0.2817	22.33	2.90%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.206	0.648	－0.674	－0.294	－0.380	－0.029	0.052
70	－0.016	0.218	－0.158	－0.065	－0.093	0.044	0.055

E.F.L＝86.994(±14.4°)

＊＊＊1＝4.21，＊＊＊2＝42.89，＊＊＊3＝1.81，＊＊＊4＝42.89

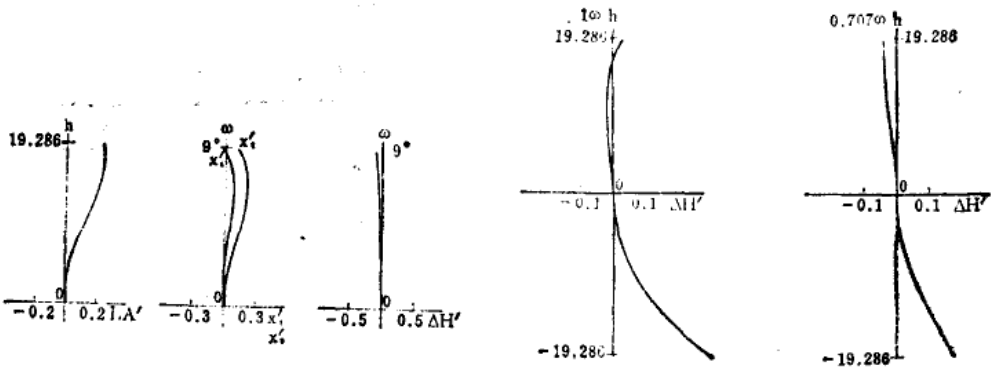


10-03-013-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0239	0.0026	0.0085	0.0012	-0.0198	21.37	-0.85%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T_1}'	$K_{T_{0.7}}'$
100	0.254	-0.183	0.147	-0.014	0.161	-0.169	-0.065
70	0.216	-0.067	0.210	0.060	0.150	-0.080	-0.023

E. F. L = 135.010(±9°)

＊＊＊ 1 = 27.03; ＊＊＊ 2 = 20.07; ＊＊＊ 3 = 24.63; ＊＊＊ 4 = 20.07

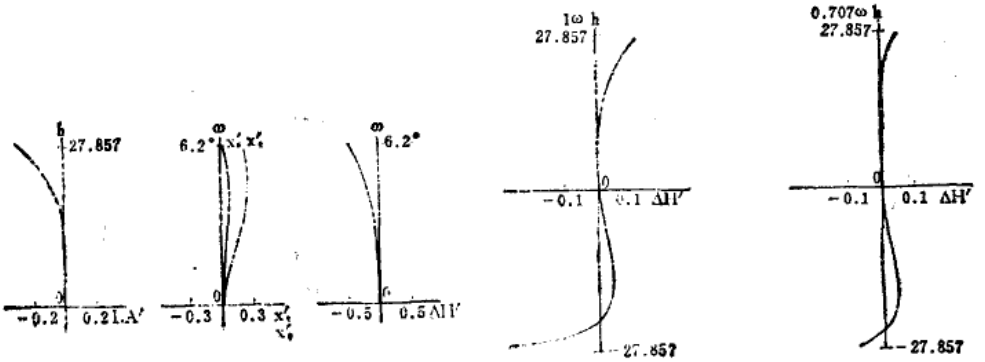


10-03-013-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0053	-0.0037	0.0097	0.0012	-0.1232	21.18	-2.39%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T_1}'	$K_{T_{0.7}}'$
100	-0.379	-0.506	0.207	0.022	0.185	0.081	-0.045
70	-0.034	-0.177	0.253	0.078	0.175	0.017	-0.024

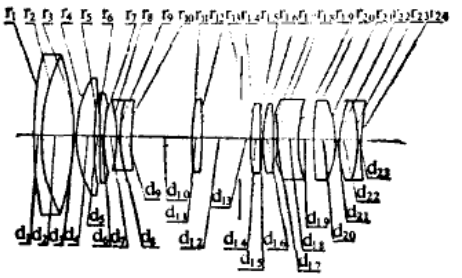
E. F. L = 195.017(±6.2°)

＊＊＊ 1 = 46.26; ＊＊＊ 2 = 0.84; ＊＊＊ 3 = 43.86; ＊＊＊ 4 = 0.84



编号：10-03-014

摄影机用小型大孔径变焦距物镜



E.F.L=8.710～24.772　B.F.L=7.94　FNo.=0.978　F.A.=±16°**～±5.6°**

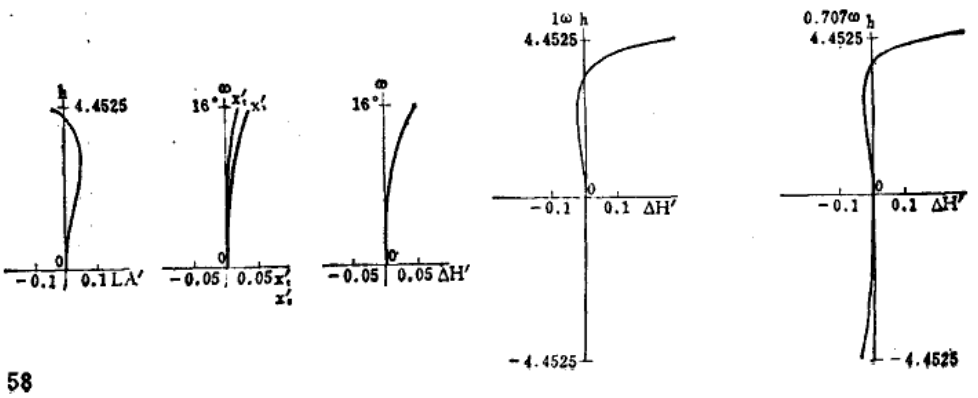
序号	r	d	n	v	序号	r	d	n	v
1	112.031	2.00	1.8051	25.4	13	∞	2.50		
2	37.259	7.52	1.5891	61.1	14	33.893	2.24	1.7725	49.7
3	-76.410	0.12			15	-8678.084	0.10		
4	25.085	4.51	1.6229	58.2	16	21.228	2.65	1.7725	49.7
5	67.908	*** 1			17	-317.316	1.13		
6	-953.365	0.90	1.5891	61.1	18	-17.769	5.03	1.8051	25.4
7	11.473	3.24			19	17.058	3.86		
8	-19.418	0.72	1.5891	61.1	20	84.743	5.22	1.7725	49.7
9	14.172	2.69	1.8051	25.4	21	-15.369	0.07		
10	72.777	*** 2			22	14.317	4.68	1.7725	49.7
11	27.542	2.68	1.5891	61.1	23	-21.145	0.60	1.8051	25.4
12	-107.516	*** 3*			24	67.665			

10-03-014-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.097	0.048	-0.018	0.034	0.077	2.495	2.10%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{t_1}'	$K_{t_{0.7}}'$
100	-0.048	0.052	0.021	0.039	-0.018	-0.145	0.011
70	0.062	0.019	0.010	0.023	-0.013	-0.143	0.024

E.F.L=8.710(±16°**)

*** 1 = 1.296, *** 2 = 14.343, *** 3* = 9.900* = 9.900 + 0

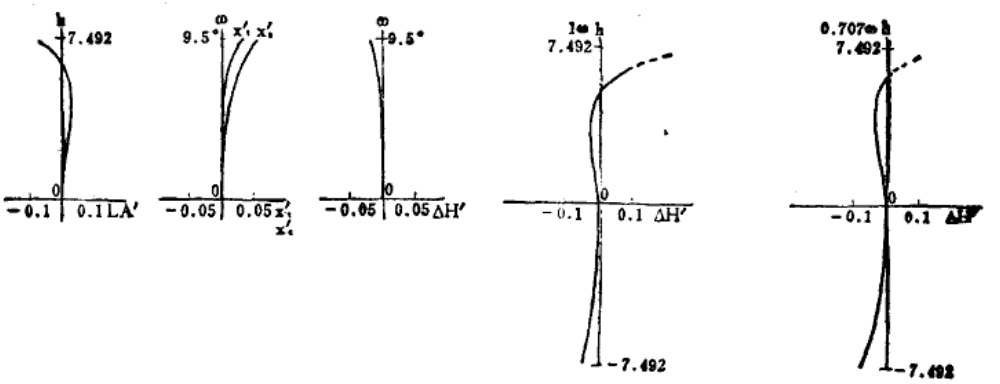


10-03-014-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.075	0.068	−0.018	0.033	-7×10^{-4}	2.456	−0.65%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\acute{T}_1$	$K\acute{T}_{0.7}$
100	−0.092	−0.016	0.033	0.048	−0.015	−0.355	0.019
70	0.044	−0.003	0.006	0.022	−0.016	−0.164	0.037

E.F.L = 14.679(±9.5°)

＊＊＊1 = 9.511；＊＊＊2 = 9.478；＊＊＊3＊ = 6.550＊ = 6.550 + 0

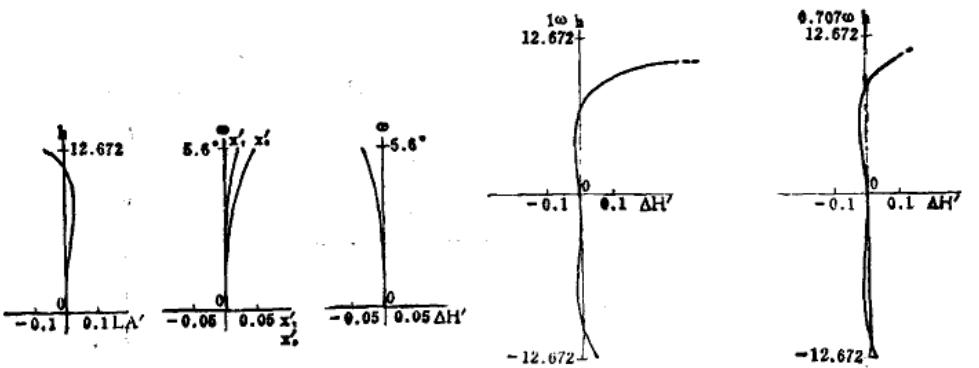


10-03-014-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.039	0.045	−0.009	0.032	−0.026	2.427	−1.36%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\acute{T}_1$	$K\acute{T}_{0.7}$
100	−0.072	−0.033	0.027	0.049	−0.022	−0.596	−0.026
70	0.025	−0.010	0.010	0.023	−0.013	−0.281	0.003

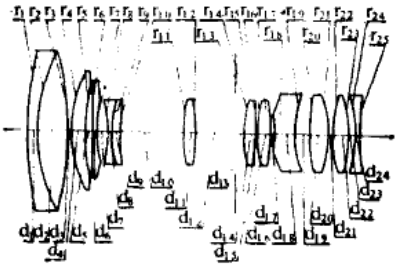
E.F.L = 24.772(±5.6°＊＊)

＊＊＊1 = 14.394；＊＊＊2 = 1.245；＊＊＊3＊ = 9.900＊ = 9.900 + 0



编号：10-03-015

摄影机用小型大孔径变焦距物镜



E.F.L=8.705～24.808　B.F.L=7.88　FNo.=1　F.A.=±17°**～±5.6°**

序号	r	d	n	v	序号	r	d	n	v
1	103.093	2.00	1.8051	25.40	14	31.099	2.27	1.6935	53.3
2	36.803	7.44	1.5891	61.1	15	405.807	0.10		
3	-90.863	0.12			16	23.775	2.73	1.7725	49.7
4	27.115	4.40	1.5891	61.1	17	-90.508	1.01		
5	96.972	*** 1			18	-18.182	5.04	1.8051	25.4
6	-921.159	0.90	1.6229	58.2	19	16.803	3.88		
7	11.497	3.38			20	67.616	4.89	1.6935	53.3
8	-18.128	0.90	1.5163	64.1	21	-14.905	0.10		
9	15.291	2.63	1.8051	25.4	22	13.890	4.90	1.7725	49.7
10	76.146	*** 2			23	-30.630	0.16		
11	34.963	2.56	1.5891	61.1	24	-28.867	0.80	1.8051	25.4
12	-69.154	*** 3*			25	58.855			
13	∞	2.50							

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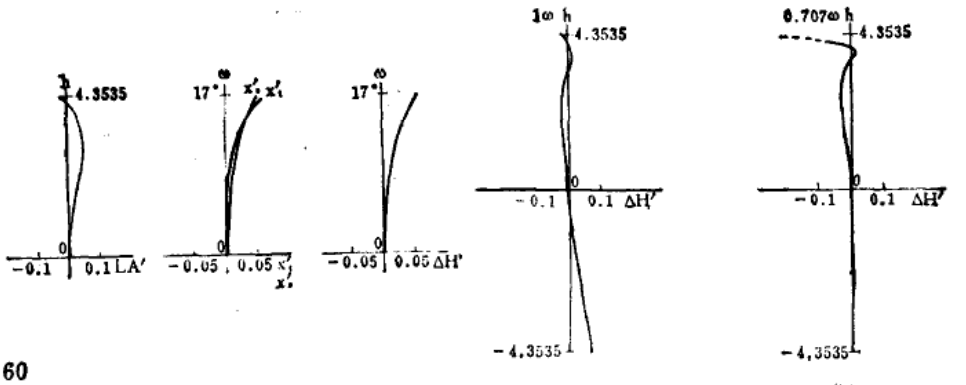
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.086	0.020	-0.018	0.037	0.090	2.664	2.23%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}	$K_{T0.7}$
100	-0.016	0.059	0.062	0.052	0.010	-0.024	-0.015
70	0.055	0.023	0.015	0.026	-0.011	0.389	0.004

E.F.L=8.705(±17°**)

*** 1 = 1.791, *** 2 = 15.056, *** 3* = 10.134* = 10.134 + 0

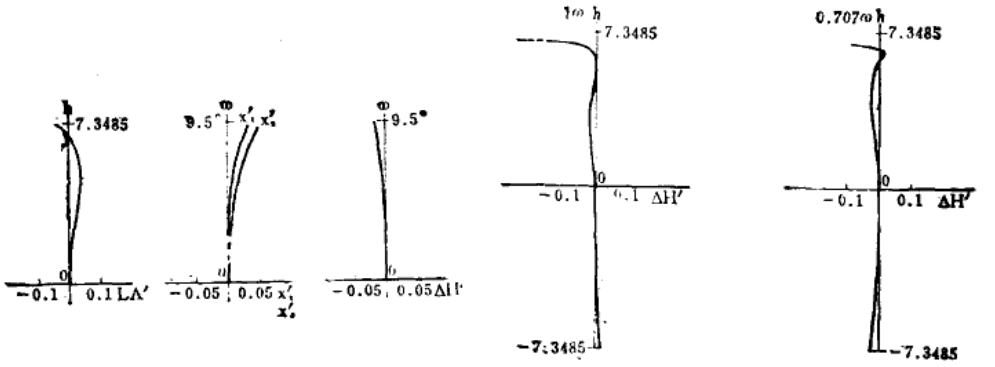


10-03-015-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.068	0.040	-0.013	0.031	-0.005	2.458	-0.72%
h 或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	Kf_1	$Kf_{0.7}$
100	-0.049	-0.017	0.037	0.050	-0.013	1.181	-0.001
70	0.039	-0.004	0.012	0.024	-0.012	0.815	0.015

E. F. L = 14.692(±9.5°)

＊＊＊1 = 10.462；＊＊＊2 = 9.920；＊＊＊3 * = 6.500* = 6.500 + 0

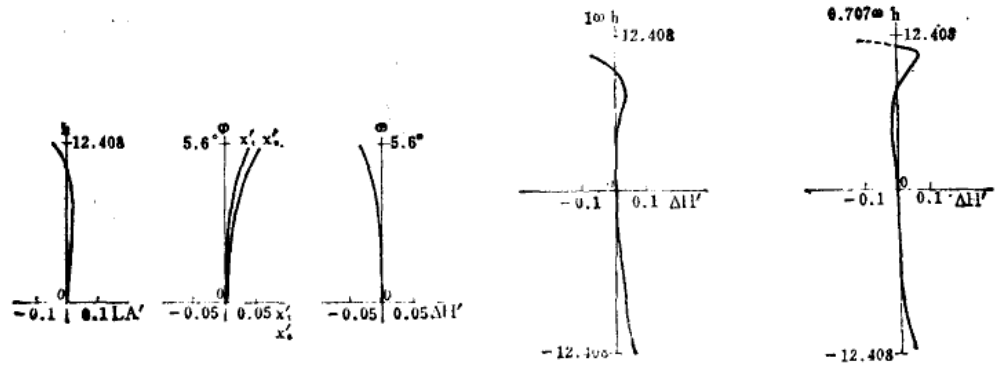


10-03-015-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.031	0.027	-0.004	0.030	-0.029	2.431	-1.45%
h 或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	Kf_1	$Kf_{0.7}$
100	-0.061	-0.035	0.041	0.055	-0.014	1.027	-0.030
70	0.015	-0.011	0.019	0.027	-0.008	0.749	-0.008

E. F. L = 24.808(±5.6°**)

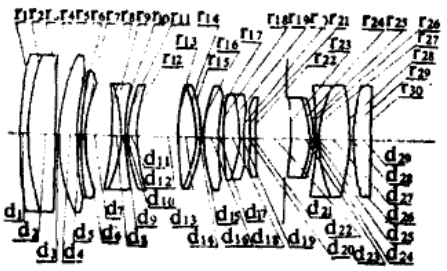
＊＊＊1 = 15.599；＊＊＊2 = 1.249；＊＊＊3 * = 10.134* = 10.134 + 0



编号：10-03-016

高变倍率变焦距物镜

E.F.L＝28.997～131.855　B.F.L＝56.06～72.79　FNo ＝4.5　F.A.＝±19°**～±45°**



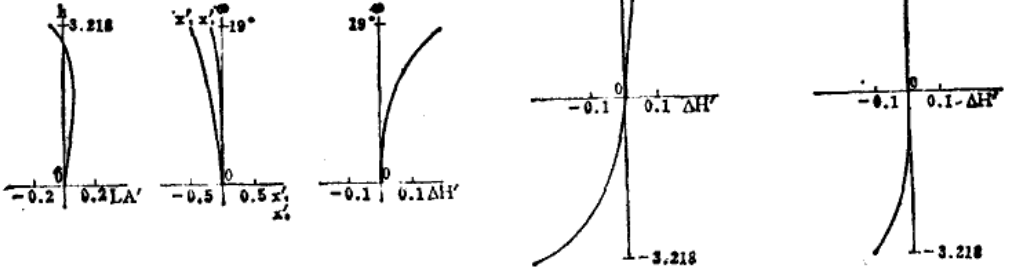
序号	r	d	n	v	序号	r	d	n	v
1	154.085	2.00	1.80518	25.4	16	21.416	3.46	1.51633	64.1
2	71.160	7.00	1.62299	58.2	17	65.918	＊＊＊3		
3	－408.750	0.10			18	119.573	3.76	1.71736	29.5
4	50.885	4.50	1.62299	58.2	19	－17.128	1.00	1.77250	49.6
5	82.750	＊＊＊1			20	41.633	1.49		
6	133.870	1.20	1.77250	49.6	21	－34.680	1.00	1.77250	49.6
7	17.125	6.44			22	140.021	＊＊＊4*		
8	－119.741	2.50	1.80518	25.4	23	－129.801	4.95	1.71300	53.9
9	－37.040	1.00	1.77250	49.8	24	－16.485	1.00	1.80518	25.4
10	73.977	0.10			25	－27.188	0.30		
11	27.602	2.20	1.80518	25.4	26	－97.088	1.00	1.80610	40.9
12	39.973	＊＊＊2			27	24.597	7.50	1.58913	61.1
13	65.439	4.75	1.58913	61.1	28	－45.921	0.30		
14	－20.400	1.00	1.80518	25.4	29	42.314	4.16	1.51633	64.1
15	－29.765	0.10			30	312.792			

10-03-016-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00789	0.00002	－0.00650	0.00253	0.01183	9.98	2.12%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}	$K_{T0.7}$
100	－0.109	0.212	－0.510	－0.165	－0.345	0.155	0.037
70	0.066	0.074	－0.280	－0.074	－0.206	0.070	0.018

E.F.L＝28.997(±19°**)　B.F.L＝56.06

＊＊＊1＝1.880；＊＊＊2＝28.120；＊＊＊3＝1.124；＊＊＊4*＝8.617*＝7.617＋1.000

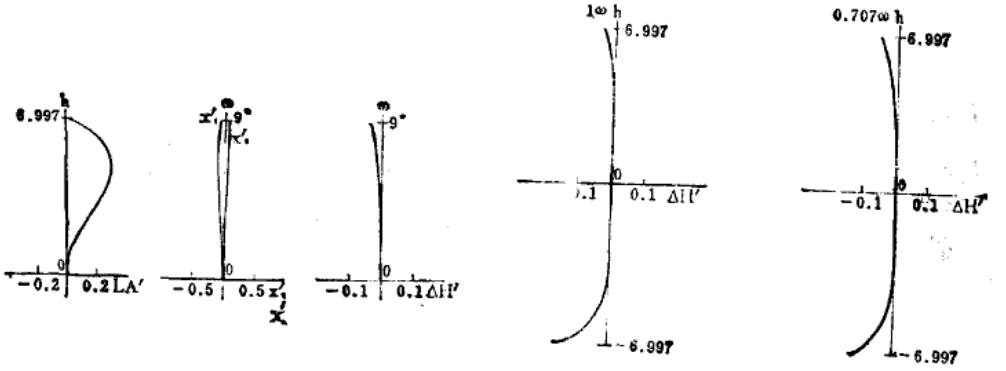


10-03-016-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.02317	−0.00237	−2.00235	0.00253	−0.00869	9.96	−0.38%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.009	−0.038	−0.075	0.008	−0.083	0.110	0.015
70	0.286	−0.012	−0.071	0.001	−0.072	0.088	0.013

E.F.L=62.971(±9°) B.F.L=68.59

＊＊＊1=23.297; ＊＊＊2=12.765; ＊＊＊3=4.434; ＊＊＊4*=5.387*=4.387+1.000

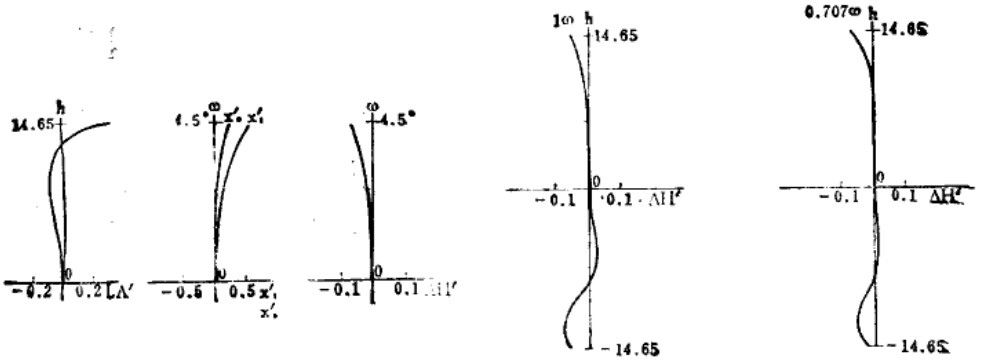


10-03-016-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	−0.00634	−0.00497	0.00304	0.00274	−0.01700	10.37	−0.74%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.300	−0.077	0.516	0.228	0.288	0.059	0.026
70	−0.095	−0.027	0.250	0.116	0.134	0.042	0.015

E.F.L=131.855(±4.5°**) B.F.L=72.79

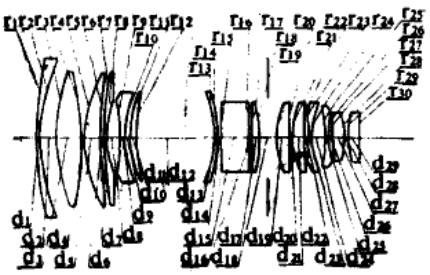
＊＊＊1=46.113; ＊＊＊2=3.870; ＊＊＊3=7.384; ＊＊＊4*=2.437*=1.437+1.000



编号：10-03-017

8mm摄影机变焦距物镜

E.F.L＝6.998～20.996　B.F.L＝9.19　FNo.＝1.2　F.A.＝±16°**～±5.6°**



序号	r	d	n	v	序号	r	d	n	v
1	107.200	1.200	1.78472	25.7	16	∞	0.418		
2	40.000	3.800			17	262.000	2.200	1.70154	41.2
3	45.000	6.400	1.58913	61.3	18	－25.370	4.500*		
4	－118.000	0.100			19	15.690	3.200	1.69700	48.5
5	32.150	4.600	1.58913	61.3	20	464.700	0.100		
6	182.700	＊＊＊1			21	14.365	2.800	1.69350	53.3
7	141.000	0.800	1.58913	61.3	22	105.780	0.493		
8	12.680	3.645			23	－50.487	1.200	1.78472	25.7
9	－30.500	0.800	1.58913	61.3	24	11.605	3.500		
10	18.238	1.200			25	－23.919	1.200	1.78472	25.7
11	19.460	2.000	1.80518	25.5	26	17.467	1.200		
12	60.640	＊＊＊2			27	68.450	3.100	1.67790	55.5
13	－13.422	0.800	1.51680	64.2	28	－12.268	0.100		
14	－26.731	＊＊＊3			29	10.970	2.800	1.67790	55.5
15	∞	7.000	1.57250	57.5（棱镜）	30	303.710			

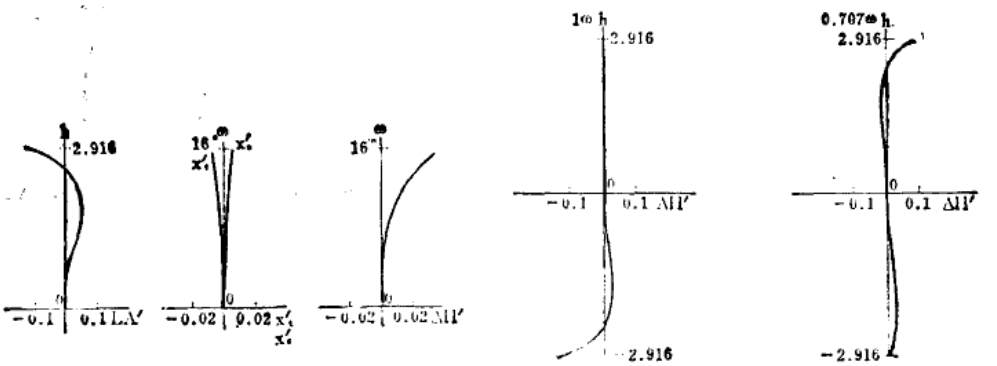
4.500* = 2.000 + 2.500

10-03-017-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0901	－0.0137	－0.0031	0.0068	0.0554	2.00	1.77%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{T}_1$	$K\dot{T}_{0.7}$
100	－0.136	0.035	－0.006	0.004	－0.010	0.071	－0.005
70	0.065	0.012	－0.005	0.003	－0.008	－0.057	－0.002

E.F.L＝6.998(±16°**)

＊＊＊1＝0.474；＊＊＊2＝19.228；＊＊＊3＝0.747

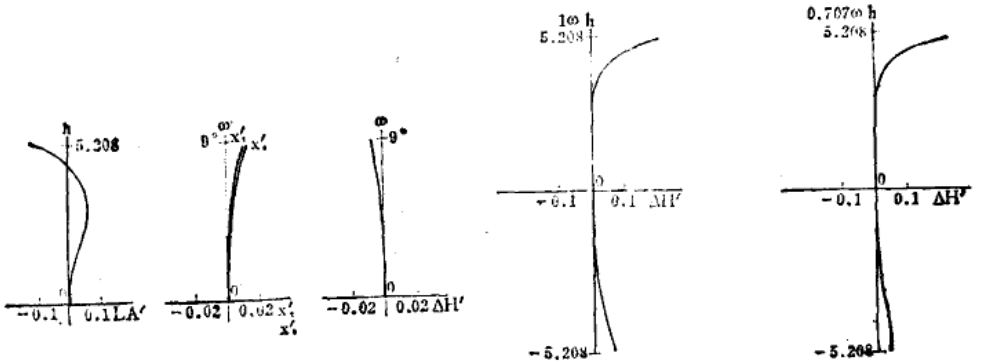


10-03-017-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0886	0.0003	-0.0017	0.0066	-0.0040	1.97	-0.45%
h 或 ω %	LA′	ΔH′	x_i'	x_s'	$x_i'-x_s'$	Kf_1	$Kf_{0.7}$
100	-0.124	-0.008	0.013	0.013	0	-0.126	-0.016
70	0.064	-0.002	0.008	0.008	0	-0.143	-0.014

E. F. L = 12.498(±9°)

＊＊＊1 = 10.856; ＊＊＊2 = 6.939; ＊＊＊3 = 2.654

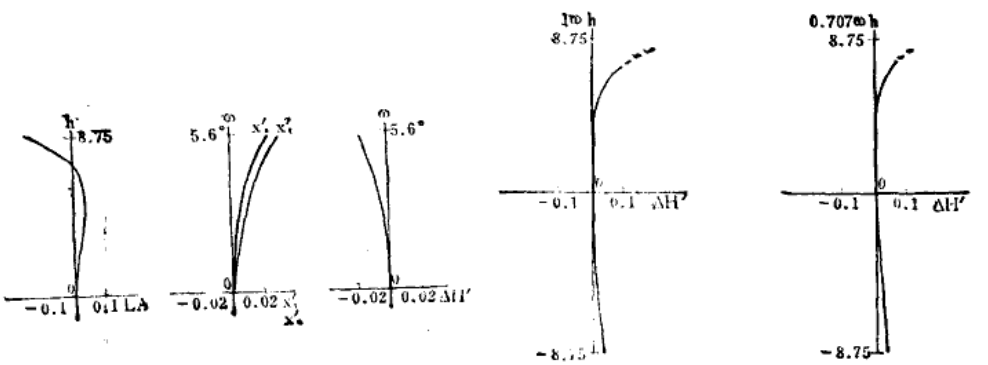


10-03-017-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0744	0.0091	0.0014	0.0071	-0.0118	2.05	-0.89%
h 或 ω %	LA′	ΔH′	x_i'	x_s'	$x_i'-x_s'$	Kf_1	$Kf_{0.7}$
100	-0.151	-0.018	0.036	0.023	0.013	-0.213	-0.023
70	0.047	-0.006	0.017	0.012	0.005	-0.154	-0.015

E. F. L = 20.996(±5.6°)

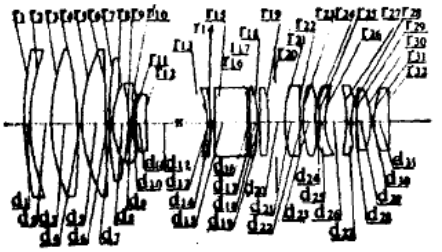
＊＊＊1 = 17.725; ＊＊＊2 = 2.082; ＊＊＊3 = 0.642



编号：10-03-018

8mm摄影机变焦距物镜

E.F.L＝6.701～48.91　B.F.L＝10.01～8.04　FNo.＝1.2　F.A.＝±12°**～±2°*



序号	r	d	n	ν	序号	r	d	n	ν
1	145.490	1.50	1.78472	25.7	17	−120.000	2.10	1.58144	40.
2	50.394	5.80			18	−31.250	0.10		
3	53.336	7.80	1.58913	61.3	19	500.000	2.10	1.51823	59
4	−192.910	0.10			20	−44.369	4.50*		
5	41.447	6.20	1.58913	61.3	21	20.677	4.30	1.69700	48.5
6	237.280	＊＊＊1			22	−500.000	0.10		
7	138.930	0.90	1.71300	53.9	23	19.435	3.80	1.69350	53.
8	16.357	4.46			24	91.582	0.67		
9	−37.120	0.90	1.58913	61.3	25	−69.346	1.80	1.78472	25.
10	18.972	1.00			26	16.021	6.10		
11	21.347	2.60	1.80518	25.5	27	−33.921	1.00	1.78472	25.
12	81.139	＊＊＊2			28	23.782	0.60		
13	−20.088	0.80	1.51680	64.2	29	62.629	3.80	1.67790	55.5
14	−102.543	＊＊＊3			30	−15.979	0.10		
15	∞	9.00	1.57250	57.5 (棱镜)	31	15.624	4.00	1.67790	55.5
16	∞	0.30			32	∞			

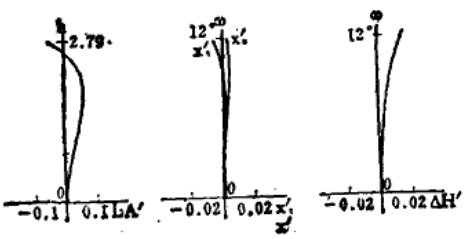
4.50* = 2.00 + 2.50

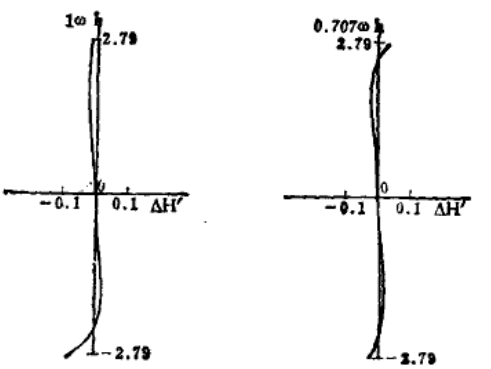
10-03-018-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0863	−0.0011	−0.0015	0.0024	0.0127	1.42	0.93%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.065	0.013	−0.006	0.002	−0.008	0.045	0.005
70	0.073	0.004	0.001	0.002	−0.001	−0.016	0.005

E.F.L＝6.701(±12°**)　B.F.L＝10.01

＊＊＊1＝0.148;　＊＊＊2＝36.320;　＊＊＊3＝0.940



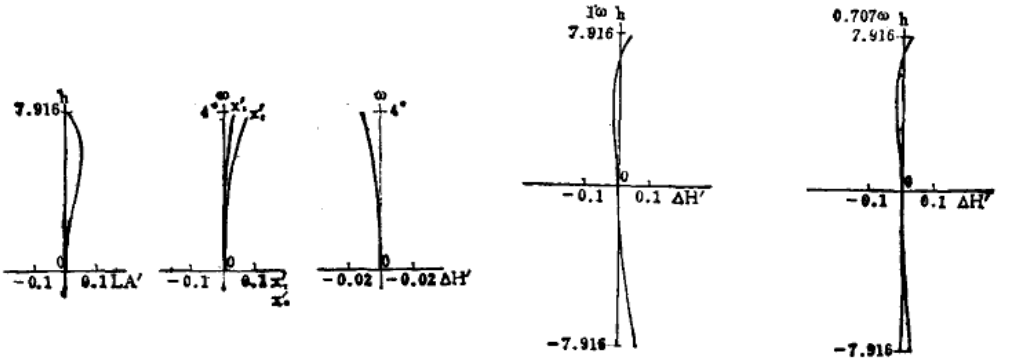


10-03-018-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0417	-0.0010	0.0061	0.0021	-0.0089	1.49	-0.82%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.013	-0.012	0.079	0.030	0.049	-0.051	-0.009
70	0.049	-0.004	0.038	0.015	0.023	-0.035	-0.006

E.F.L=21.380(±4°) B.F.L=9.62

＊＊＊1=24.663, ＊＊＊2=7.964, ＊＊＊3=4.781

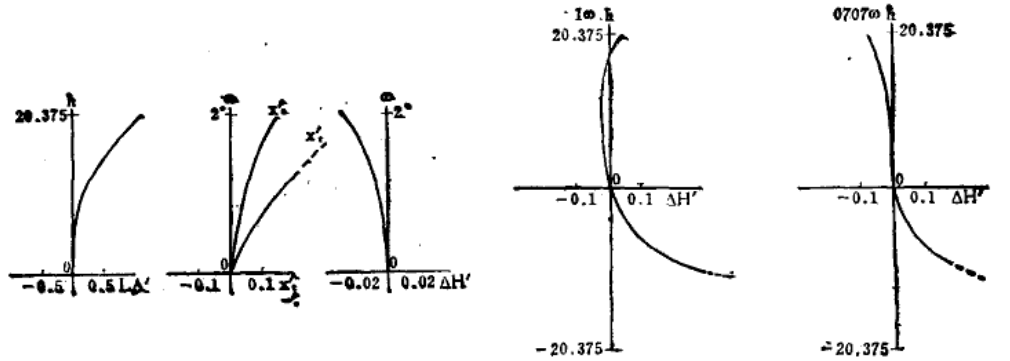


10-03-018-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.2828	-0.1141	0.0515	0.0035	-0.0267	1.71	-1.92%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	1.219	-0.033	0.507	0.165	0.342	-1.372	-0.348
70	0.465	-0.011	0.238	0.080	0.158	-0.745	-0.218

E.F.L=48.912(±2°) B.F.L=8.04

＊＊＊1=34.623, ＊＊＊2=2.047, ＊＊＊3=0.738

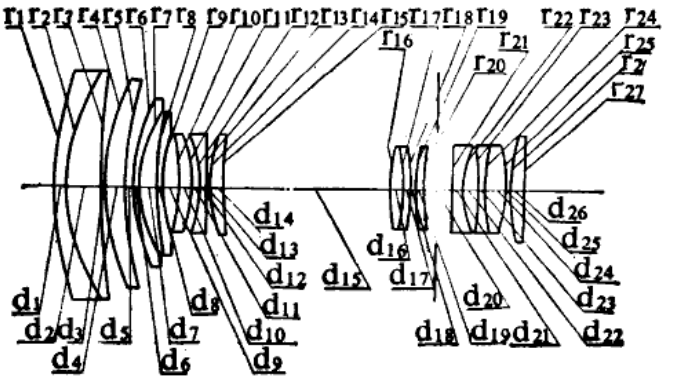


编号：10-03-019

有限距离像质较好的三组元变焦距物镜

E.F.L＝43.587～86.379　　B.F.L＝48.56～45.91

FNo.＝4.5**　　F.A.＝±16°**～±8°**



序号	r	d	n	v	序号	r	d	n	v
1	64.21	1.7	1.8052	25.4	15	80.73	***2		
2	39.50	6.0	1.6703	57.6	16	38.44	2.5	1.6204	60.3
3	171.73	0.1			17	－35.07	1.0	1.8052	25.4
4	41.31	3.3	1.7130	54.0	18	－64.96	0.1		
5	62.29	***1			19	18.76	1.9	1.6031	60.7
6	31.09	0.9	1.5512	49.6	20	35.56	4.6*		
7	15.22	3.2			21	－3930.79	2.1	1.7880	47.5
8	77.26	0.9	1.5512	49.6	22	19.04	2.4		
9	27.29	2.9			23	－72.39	1.0	1.6127	44.4
10	－57.16	2.1	1.7174	29.5	24	39.08	3.8	1.5182	59.0
11	－27.49	1.5			25	－26.93	0.1		
12	－23.66	0.9	1.6223	53.1	26	32.53	2.3	1.5186	70.1
13	371.78	0.1			27	298.36			
14	30.22	2.1	1.7174	29.5					

注：下表中的像差值均是按 $\frac{1}{l}=-\frac{1}{\infty}$ 计算的。有限距离时，$\beta=0.127\sim0.308$。

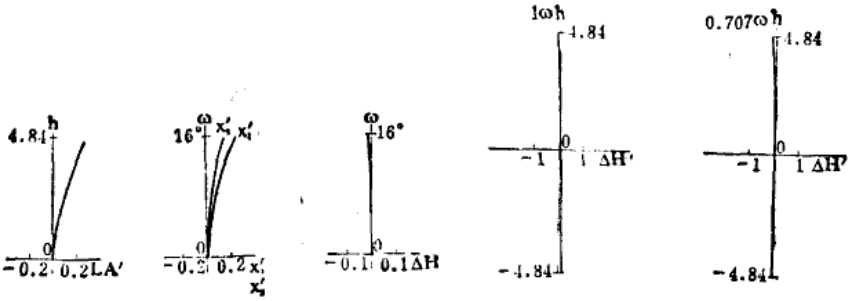
4.6* = 2.3 + 2.3

10-03-019-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0098	0.0046	-0.0009	0.0064	-0.0207	12.48	-0.099%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{r}_1$	$K\dot{r}_{0.7}$
100	0.265	-0.012	0.259	0.187	0.072	0.031	0.023
70	0.168	-0.003	0.155	0.118	0.037	0.029	0.020

E.F.L=43.587(±16 **) B.F.L=48.56

***1=1.117; ***2=28.201

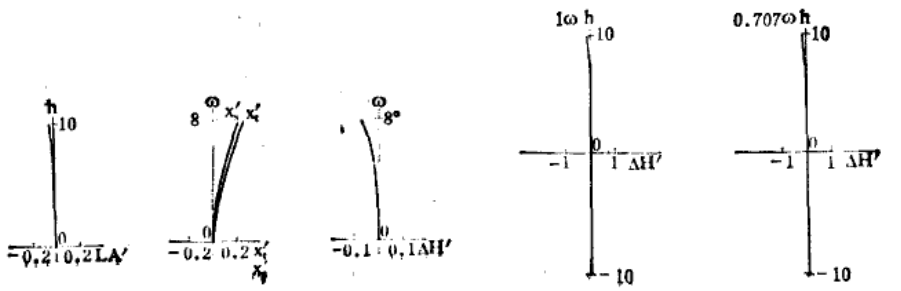


10-03-019-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	-0.0005	0.0044	0.0008	0.0065	-0.0200	12.08	-0.606%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{r}_1$	$K\dot{r}_{0.7}$
100	-0.078	-0.073	0.276	0.223	0.053	0.060	0.028
70	-0.024	-0.026	0.153	0.125	0.028	0.044	0.020

E.F.L=86.379(±8 **) B.F.L=45.91

***1=24.667; ***2=4.652

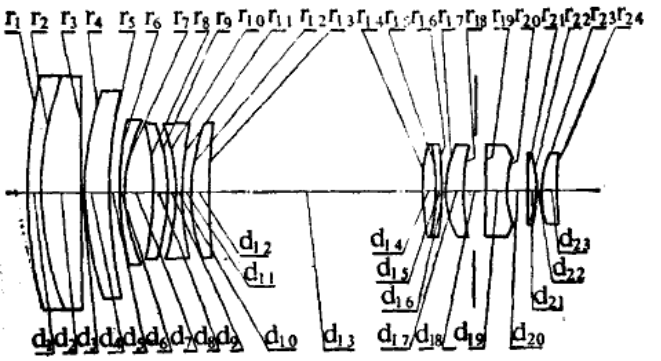


编号：10-03-020

有限距离像质较好的三组元变焦距物镜

E.F.L＝32.039～91.987　　B.F.L＝40.25～47.41　　FNo.＝4.5**

F.A.＝±16°**～5.5°**



序　号	r	d	n	ν
1	98.265	2.0	1.80518	25.4
2	56.371	7.0	1.67025	57.6
3	294.111	0.1		
4	50.950	4.3	1.71300	54.0
5	86.420	＊＊＊1		
6	51.013	1.0	1.74400	45.1
7	16.136	4.6		
8	－64.087	2.75	1.71736	29.5
9	－32.942	1.4		
10	－31.525	1.0	1.62230	53.1
11	56.459	1.2		
12	28.476	3.2	1.71736	29.5
13	109.727	＊＊＊2		
14	34.938	2.6	1.62041	60.3
15	－38.235	0.9	1.80518	25.4
16	－97.810	0.1		
17	17.003	3.0	1.56384	60.8
18	37.067	4.0*		
19	294.676	3.8	1.78797	47.5
20	15.549	3.3		
21	348.425	1.8	1.49782	82.3
22	－34.381	0.1		
23	23.524	2.7	1.49782	82.3
24	62.146			

注：下表中的像差值均是按 $l=-\infty$ 计算的。有限距离时，$\beta=0.086\sim0.308$。

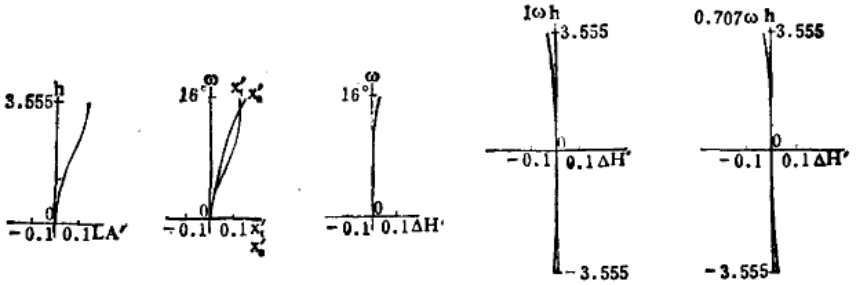
4.0*＝2.0＋2.0

10-03-020-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0061	0.0004	0.0004	0.0037	0.0111	9.17	0.367%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.127	0.033	0.115	0.130	−0.015	0.027	0.014
70	0.097	0.013	0.102	0.079	0.023	0.012	0.007

E. F. L = 32.039(± 16°**)　　B. F. L = 40.25

*** 1 = 1.716,　*** 2 = 36.947

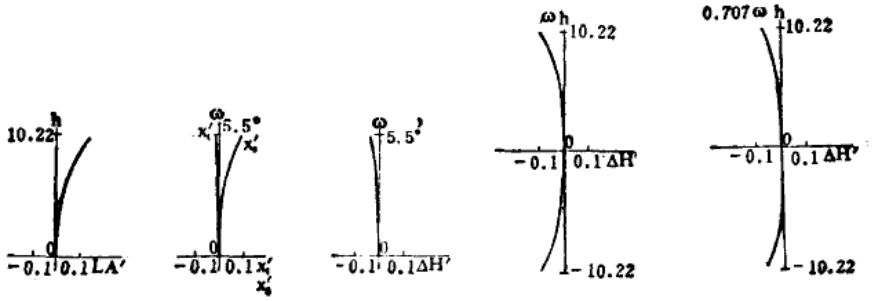


10-03-020-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0025	0.0050	−0.0011	0.0035	−0.0065	8.85	−0.401%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.1279	−0.0355	−0.0016	0.0839	−0.0855	0.1093	0.0388
70	0.0531	−0.0126	−0.0004	0.0446	−0.0450	0.0835	0.0305

E. F. L = 91.987(± 5.5°**)　　B. F. L = 47.41

*** 1 = 35.516,　*** 2 = 3.147

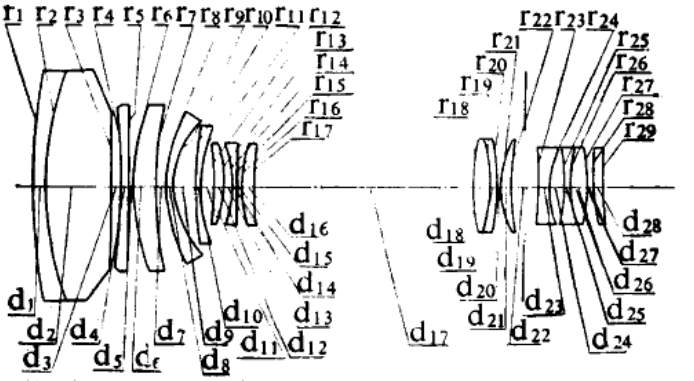


编号：10-03-021

有限距离像质较好的三组元变焦距物镜

E.F.L＝27.989～98.683　　B.F.L＝50.21～108.54　　FNo.＝4.5**～10**

F.A.＝±16°**～±4.54°**



序　号	r	d	n	v
1	131.806	2.0	1.71736	29.5
2	56.247	11.0	1.67025	57.6
3	208.885	1.0		
4	－149.871	2.0	1.54814	45.9
5	434.565	0.1		
6	48.661	4.0	1.71700	48.1
7	82.614	＊＊＊1		
8	27.655	0.9	1.55115	49.6
9	14.510	3.7		
10	62.590	0.9	1.55115	49.6
11	22.908	3.2		
12	－51.007	2.0	1.71736	29.5
13	－26.403	1.4		
14	－24.720	0.9	1.62230	53.1
15	296.098	0.1		
16	26.790	2.0	1.71736	29.5
17	61.177	＊＊＊2		
18	40.653	3.0	1.62041	60.4
19	－34.546	0.9	1.80518	25.4
20	－64.772	0.1		
21	17.153	1.7	1.60311	60.7
22	38.274	4.2*		
23	－172.190	1.9	1.78797	47.5
24	18.932	2.2		
25	－68.879	0.9	1.61266	44.5
26	30.859	3.1	1.51823	59.0
27	－21.455	0.1		
28	30.206	2.1	1.51860	70.1
29	180.423			

注：下表中的像差值均是按 $l=-\infty$ 计算的。$\beta=0.086\sim0.308$。

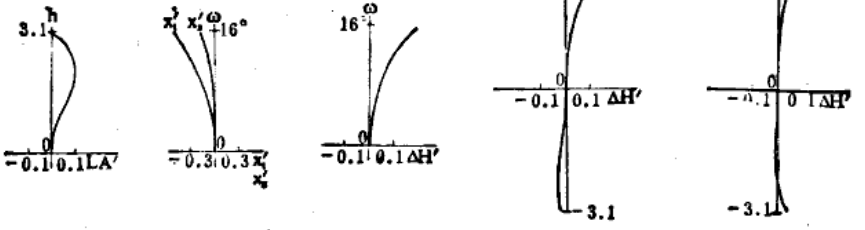
4.2*＝2.1＋2.*

10-03-021-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0092	-5×10^{-6}	-0.0037	-0.0010	0.0463	8.01	2.80%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.016	0.225	-0.540	-0.214	-0.326	-0.070	-0.014
70	0.102	0.079	-0.254	-0.099	-0.155	-0.045	-0.012

E. F. L = 27.989(±16***)　　B. F. L = 50.21

*** 1 = 1.548;　*** 2 = 37.525

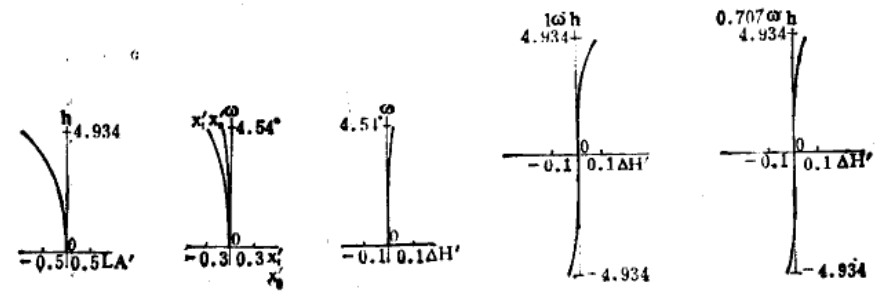


10-03-021-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	-0.0033	-0.0010	-0.0005	-0.0001	0.0025	7.83	0.337%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-1.003	0.026	-0.386	-0.157	-0.229	-0.015	-0.012
70	-0.413	0.009	-0.193	-0.078	-0.115	-0.010	-0.008

E. F. L = 98.683(±4.54***)　　B. F. L = 108.54

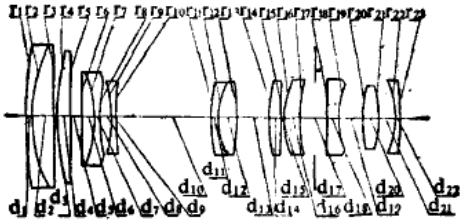
*** 1 = 35.201;　*** 2 = 3.872



编号：10-03-022

35mm摄影机远摄变焦距物镜

E.F.L=71.399～147.000　B.F.L=52.18　FNo.=4　F.A.=±17.5°～±8.1°



序号	r	d	n	v	序号	r	d	n	v
1	141.195	2.00	1.67270	32.17	13	-101.761	＊＊＊3		
2	45.578	6.50	1.61272	58.58	14	42.825	3.80	1.51633	64.15
3	287.848	0.10			15	256.174	0.10		
4	71.713	4.00	1.58913	61.25	16	26.650	4.30	1.51633	64.15
5	-974.528	＊＊＊1			17	47.901	7.48*		
6	-776.784	3.80	1.78472	25.70	18	267.210	3.56	1.75520	27.56
7	-39.912	1.50	1.69680	55.46	19	24.809	8.10		
8	59.749	2.88			20	41.372	4.84	1.60717	40.36
9	-50.859	1.50	1.69680	55.46	21	-32.367	4.61		
10	165.681	＊＊＊2			22	-24.809	1.50	1.63854	55.48
11	52.618	1.50	1.67270	32.17	23	-162.783			
12	25.730	5.20	1.51823	58.96					

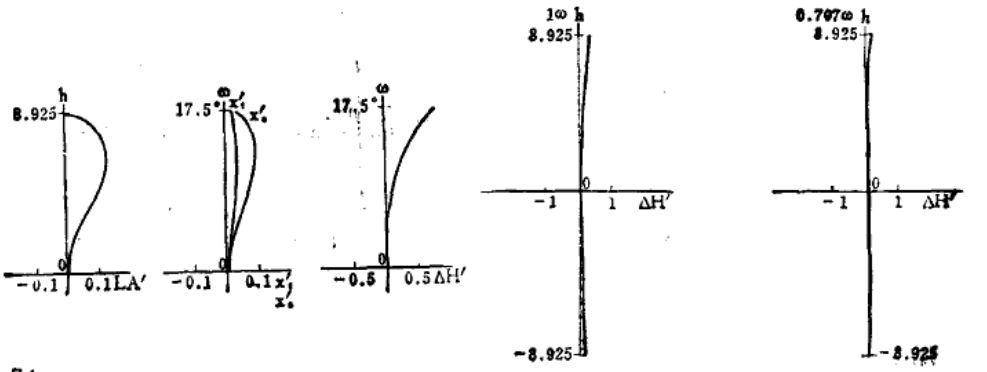
7.48*=4.00+3.48

10-03-022-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0161	0.0059	-0.0014	0.0158	0.2720	22.47	3.47%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.015	0.780	0.022	0.033	-0.011	-0.102	-0.029
70	0.137	0.257	0.042	0.109	-0.067	-0.022	0

E.F.L=71.399(±17.5°)

＊＊＊1=2.836,　＊＊＊2=25.140,　＊＊＊3=8.785

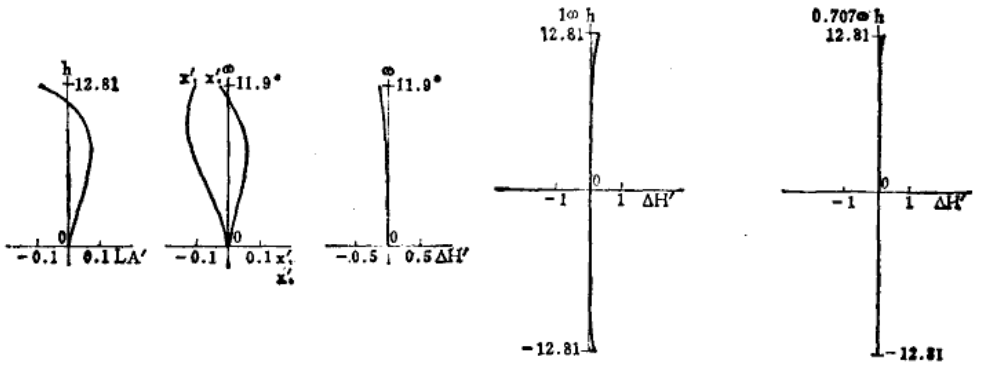


10-03-022-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0119	0.0081	-0.0078	0.0146	0.0024	21.59	-0.68%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K'_{T1}	$K'_{T0.7}$
100	-0.101	-0.148	-0.109	-0.025	-0.084	-0.122	-0.008
70	0.074	-0.053	-0.129	0.047	-0.176	-0.051	0.006

E.F.L=102.450(±11.9°)

***1=19.050; ***2=15.498; ***3=2.213

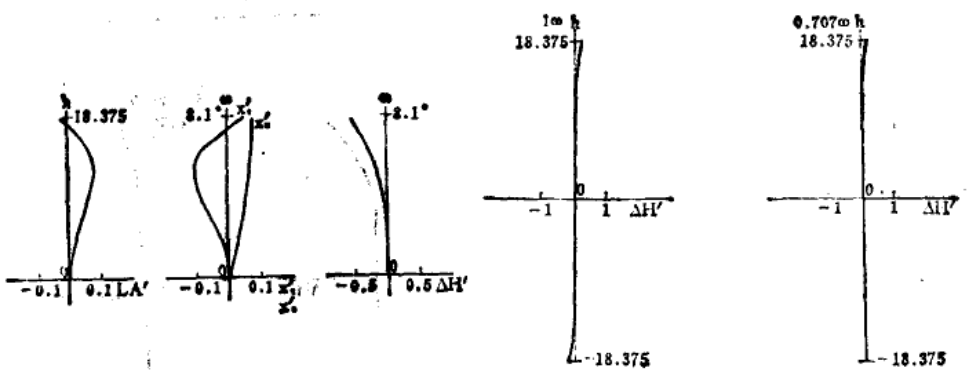


10-03-022-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0126	0.0085	-0.0085	0.0137	-0.1271	20.92	-2.90%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K'_{T1}	$K'_{T0.7}$
100	-0.022	-0.608	0.045	0.057	-0.012	-0.0487	0.0007
70	0.098	-0.209	-0.112	0.058	-0.170	-0.0099	0.0143

E.F.L=147.000(±8.1°)

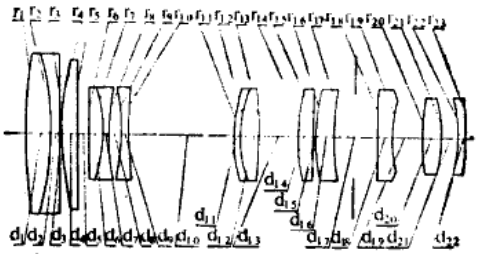
***1=30.350; ***2=1.664; ***3=4.747



编号：10-03-023

35mm摄影机远摄变焦距物镜

E.F.L＝71.531～147.940　B.F.L＝51.15　FNo.＝4　F.A.＝±17.5°～±8.1°



序号	r	d	n	v	序号	r	d	n	v
1	135.746	6.30	1.61272	58.58	13	－101.761	＊＊＊3		
2	－76.800	2.20	1.67270	32.17	14	48.107	3.80	1.51633	64.15
3	500.000	0.10			15	－509.683	0.10		
4	87.155	4.00	1.58913	61.25	16	29.336	4.30	1.51633	64.15
5	－583.829	＊＊＊1			17	46.202	10.39*		
6	－776.784	3.80	1.78472	25.70	18	－267.210	3.56	1.75520	27.56
7	－39.912	1.50	1.69680	55.46	19	27.163	7.74		
8	59.749	2.88			20	42.629	4.84	1.60717	40.36
9	－50.589	1.50	1.69680	55.46	21	－29.086	4.65		
10	165.681	＊＊＊2			22	－23.705	1.50	1.63854	55.46
11	52.618	1.50	1.67270	32.17	23	－93.340			
12	25.730	5.20	1.51823	58.96					

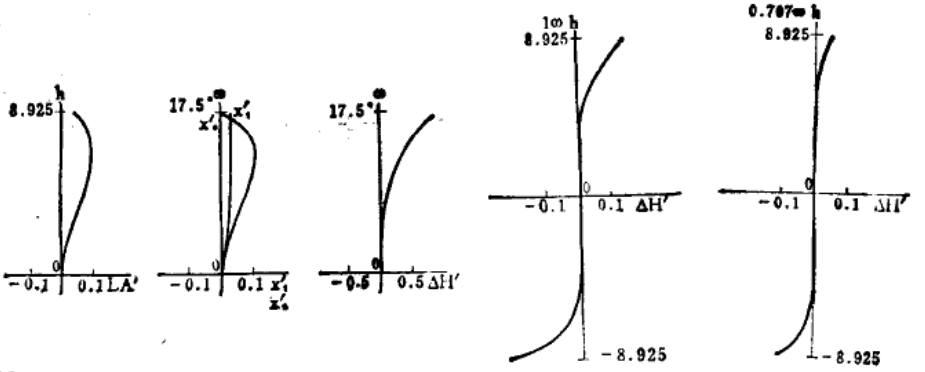
10.39* = 5.00 + 5.39

10-03-023-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0123	0.0015	－0.0023	0.0160	0.0312	22.51	3.59%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.047	0.809	0.029	－0.001	0.030	0.040	－0.008
70	0.108	0.261	0.030	0.101	－0.071	0.032	0.001

E.F.L＝71.531(±17.5°)　B.F.L＝51.15

＊＊＊1＝2.629，＊＊＊2＝25.140，＊＊＊3＝8.796

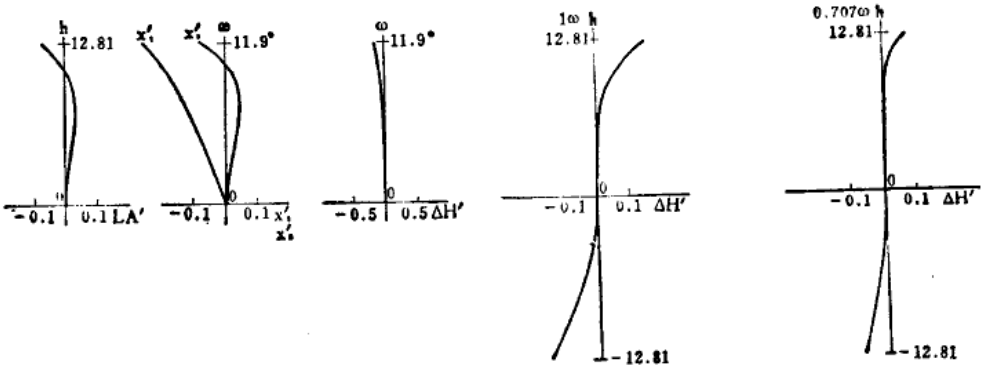


10-03-023-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0073	0.0043	-0.0069	0.0148	-0.1091	21.66	-0.59%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.090	-0.128	-0.263	-0.076	-0.187	0.009	0.023
70	0.035	-0.054	-0.145	0.046	-0.191	0	0.011

E. F. L = 102.824(±11.9°)　　B. F. L = 51.26

＊＊＊1 = 18.843;　＊＊＊2 = 15.498;　＊＊＊3 = 2.224

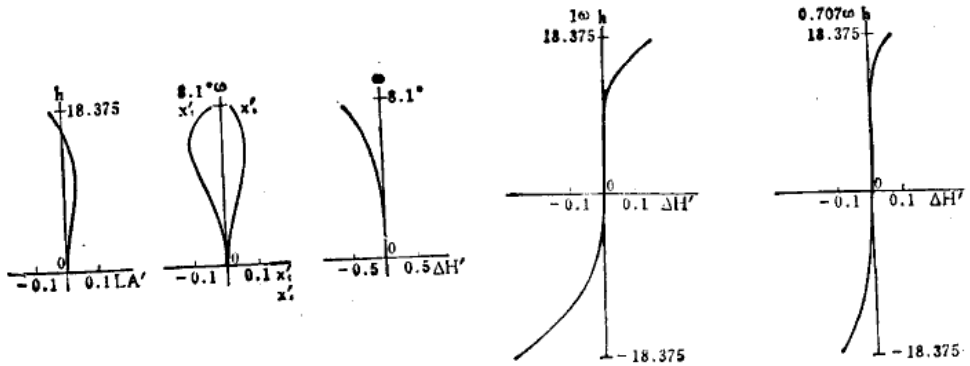


10-03-023-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0054	0.0050	-0.0072	0.0139	-0.1781	21.05	-2.86%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.042	-0.603	-0.032	0.029	-0.061	0.068	0.036
70	0.028	-0.214	-0.097	0.065	-0.162	0.023	0.017

E. F. L = 147.940(±8.1°)　　B. F. L = 51.45

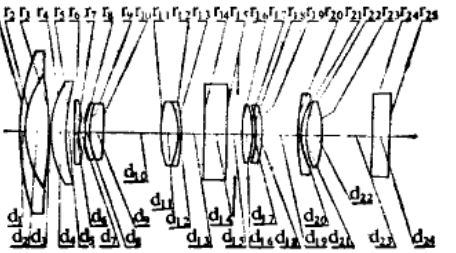
＊＊＊1 = 30.143;　＊＊＊2 = 1.664;　＊＊＊3 = 4.758



编号：10-03-024

8mm摄影机变焦距物镜

E.F.L＝1.000～4.754 B.F.L＝0.0741 FNo.＝1.8～2.0 F.A.＝±16°**～±3.4°**



序　号	r	d	n	ν	序号	r	d	n	ν
1	6.471	0.150	1.80518	25.4	14	∞	0.563	1.51633	64.1
2	2.689	0.593	1.58913	61.0	15	∞	0.397*		
3	－8.183	0.011			16	4.211	0.203	1.72342	38.0
4	2.098	0.360	1.58913	61.0	17	－3.553	0.061		
5	7.249	＊＊＊1			18	－1.671	0.103	1.80518	25.4
6	25.887	0.068	1.69700	48.5	19	－2.615	0.850		
7	0.863	0.216			20	4.574	0.103	1.84666	23.9
8	－1.191	0.068	1.69350	53.2	21	1.190	0.123		
9	1.012	0.300	1.80518	25.4	22	1.526	0.357	1.77250	49.6
10	－13.014	＊＊＊2			23	－2.272	1.253		
11	2.949	0.390	1.62374	47.1	24	∞	0.450	1.51633	64.1
12	－1.374	0.068	1.80518	25.4	25	∞			
13	－3.288	＊＊＊3							

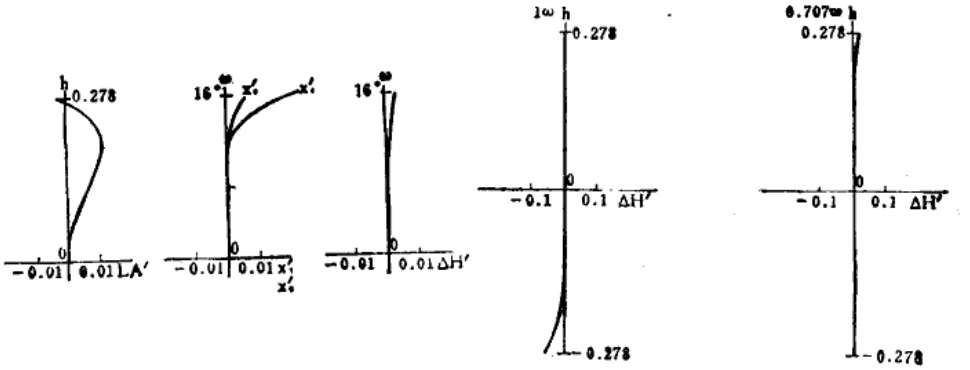
0.397* = 0.187 + 0.210

10-03-024-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0065	－0.0025	0.0006	8×10^{-5}	0.0037	0.286	1.44%
h 或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	Kf_1	$Kf_{0.7}$
100	－0.0026	0.0041	0.0234	0.0061	0.0173	0.0289	0.0048
70	0.0125	0.0020	0.0002	－0.0001	0.0003	0.0007	0

E.F.L＝1.000(±16°**)　B.F.L＝0.0741

＊＊＊1＝0.125；＊＊＊2＝1.489；＊＊＊3＝0.510

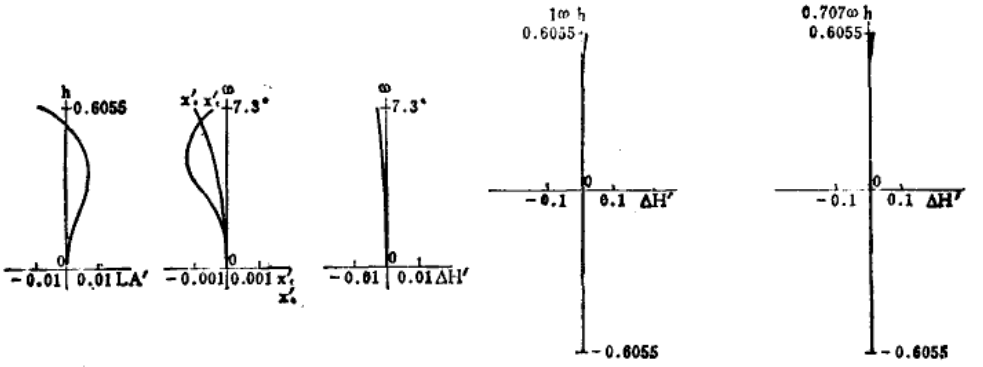


10-03-024-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0050	0.0014	−0.0005	7×10^{-5}	−0.0014	0.279	−1.30%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	Kf_1	$Kf_{0.7}$
100	−0.0110	−0.0036	−0.0006	−0.0009	0.0003	−0.0018	0.0010
70	0.0081	−0.0011	−0.0014	−0.0005	−0.0009	−0.0002	0.0016

E.F.L=2.181(±7.3°)　B.F.L=0.0736

＊＊＊1=1.081;　＊＊＊2=1.051;　＊＊＊3=0.033

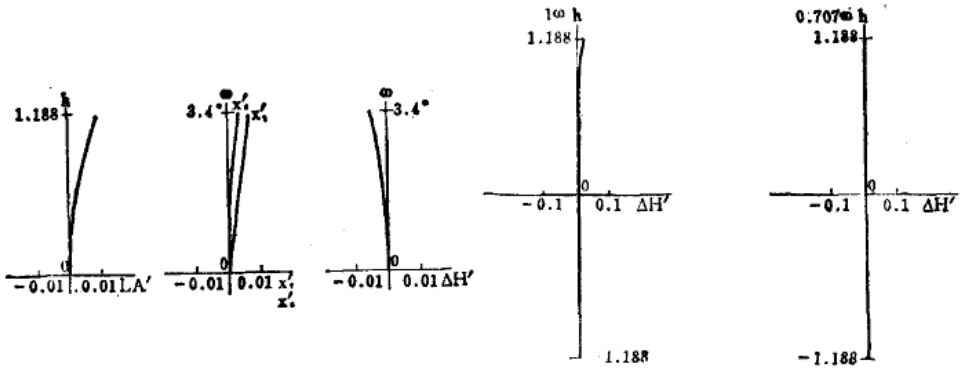


10-03-024-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0010	5×10^{-5}	0.0005	6×10^{-5}	−0.0026	0.282	−1.92%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	Kf_1	$Kf_{0.7}$
100	0.0096	−0.0054	0.0065	0.0032	0.0033	−0.0032	0.0019
70	0.0046	−0.0018	0.0053	0.0020	0.0033	−0.0063	−0.0004

E.F.L=4.754(±3.4°)　B.F.L=0.0724

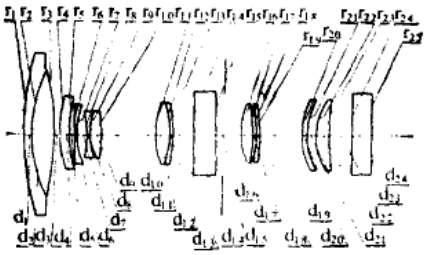
＊＊＊1=1.519;　＊＊＊2=0.096;　＊＊＊3=0.550



编号：10-03-025

8mm摄影机变焦距物镜

E.F.L＝1.001～4.752 B.F.L＝0.0737 FNo.＝1.9～2.2 F.A.＝±16°～±8.4°**



序号	r	d	n	v	序号	r	d	n	v
1	5.975	0.139	1.80518	25.4	14	∞	0.519	1.51633	64.1
2	2.483	0.547	1.58913	61.0	15	∞	0.664*		
3	−7.557	0.010			16	1.592	0.240	1.60311	60.7
4	1.937	0.332	1.58913	61.0	17	−4.233	0.038		
5	6.694	＊＊＊1			18	−2.180	0.108	1.68893	31.1
6	23.905	0.062	1.69700	48.5	19	−5.016	1.051		
7	0.797	0.199			20	1.217	0.104	1.80518	25.4
8	−1.100	0.062	1.69350	53.2	21	0.702	0.168		
9	0.935	0.277	1.80518	25.4	22	0.845	0.310	1.60311	60.7
10	−12.017	＊＊＊2			23	19.255	0.502		
11	2.721	0.360	1.62374	47.1	24	∞	0.416	1.51633	64.1
12	−1.254	0.062	1.80518	25.4	25	∞			
13	−3.019	＊＊＊3							

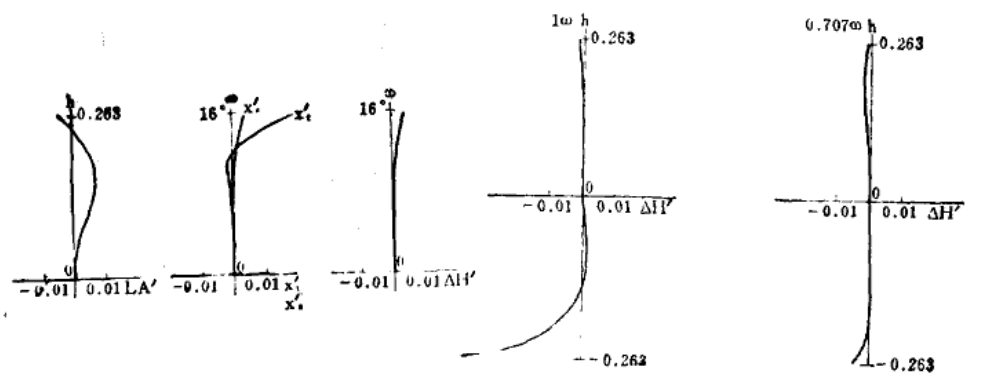
0.664* = 0.164 + 0.500

10-03-025-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0042	−0.0013	−0.0001	0.0002	0.0045	0.286	1.57%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{t1}	$K_{t0.7}$
100	−0.0061	0.0045	0.0206	0.0047	0.0159	0.0189	0.0023
70	0.0080	0.0020	−0.0020	−0.0001	−0.0016	0.0023	0.0003

E.F.L＝1.001(±16°**) B.F.L＝0.0737

＊＊＊1＝0.116; ＊＊＊2＝1.376; ＊＊＊3＝0.547

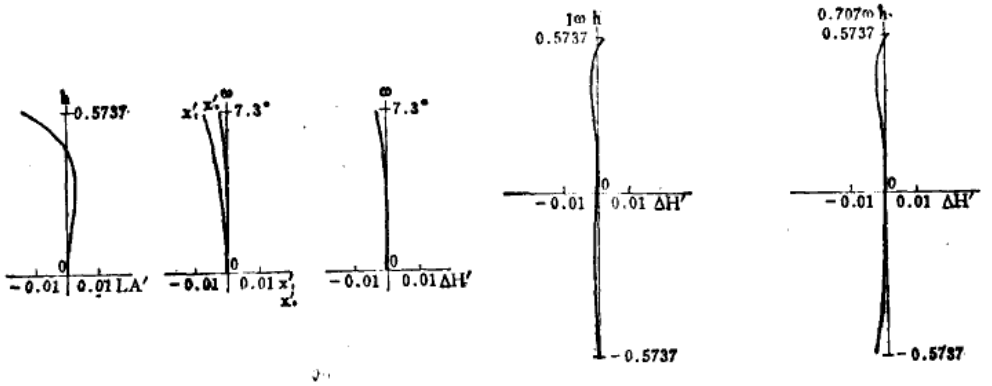


10-03-025-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0027	0.0016	−0.0007	0.0002	−0.0013	0.279	−1.41%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{T}_1$	$K\dot{T}_{0.7}$
100	−0.0157	−0.0039	−0.0071	−0.0021	−0.0050	0	0.0015
70	0.0031	−0.0012	−0.0039	−0.0008	−0.0031	0.0021	0.0021

E. F. L = 2.182(±7.3°)　　B. F. L = 0.0737

＊＊＊ 1 = 0.998;　＊＊＊ 2 = 0.971;　＊＊＊ 3 = 0.069

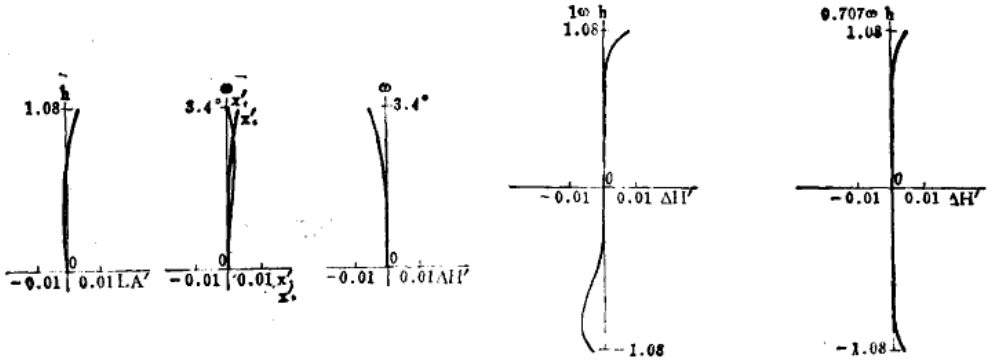


10-03-025-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	−0.0004	9×10^{-5}	0.0003	0.0002	−0.0025	0.282	−2.04%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{T}_1$	$K\dot{T}_{0.7}$
100	0.0049	−0.0057	−0.0001	0.0023	−0.0024	−0.0012	0.0023
70	−0.0001	−0.0020	0.0032	0.0019	0.0013	−0.0043	−0.0001

E. F. L = 4.752(±3.4°)　　B. F. L = 0.0748

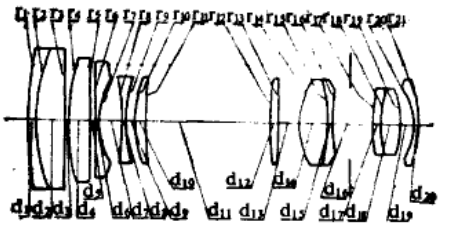
＊＊＊ 1 = 1.402;　＊＊＊ 2 = 0.089;　＊＊＊ 3 = 0.547



编号：10-03-026

35mm摄影机变焦距物镜

E.F.L＝35.964～131.988 B.F.L＝42.25～56.07 FNo.＝4 F.A.＝±16°**～±4.4°**



序号	r	d	n	ν	序号	r	d	n	ν
1	115.000	1.80	1.84666	23.9	12	104.599	2.31	1.77250	49.6
2	67.312	8.20	1.61800	63.4	13	－225.000	＊＊＊3		
3	388.000	0.10			14	20.500	8.07	1.54072	47.2
4	75.596	6.22	1.67000	57.3	15	－45.300	1.21	1.80518	25.4
5	825.500	＊＊＊1			16	60.078	11.01*		
6	1370.000	1.11	1.74100	52.7	17	56.850	2.10	1.84666	23.9
7	20.382	6.16			18	25.920	5.63	1.66446	35.8
8	－108.316	1.00	1.64328	47.9	19	－28.750	3.37		
9	49.832	2.39			20	－16.827	1.20	1.88300	40.8
10	35.571	3.28	1.84666	23.9	21	－39.006			
11	126.000	＊＊＊2							

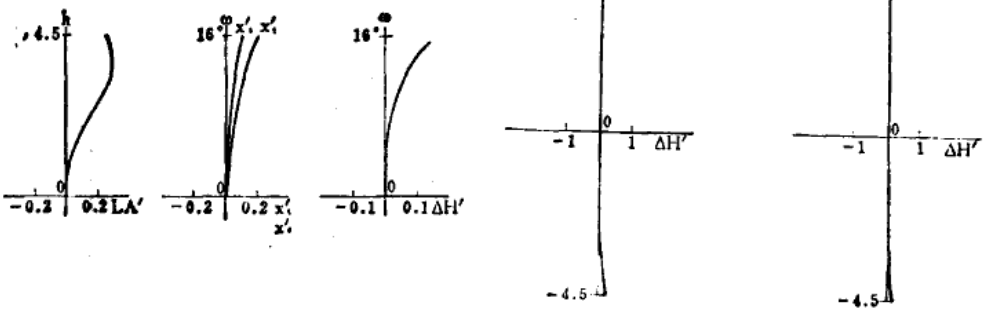
11.01*＝5.00＋6.01

10-03-026-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0217	－0.0026	0.0025	0.0011	－0.0405	10.30	1.43%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T_1}	$K_{T_{0.7}}$
100	0.249	0.147	0.220	0.104	0.116	－0.066	－0.018
70	0.248	0.051	0.124	0.054	0.070	－0.051	－0.014

E.F.L＝35.964(±16°**) B.F.L＝42.25

＊＊＊1＝1.47, ＊＊＊2＝34.35, ＊＊＊3＝5.80

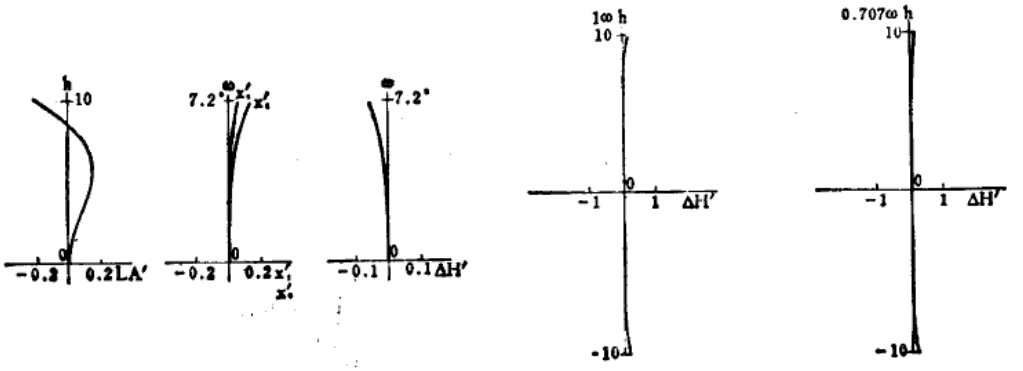


10-03-026-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0254	0.0014	0.0012	0.0010	−0.0168	10.11	−0.54%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{T}_1$	$K\dot{T}_{0.7}$
100	−0.257	−0.055	0.138	0.069	0.069	−0.139	−0.001
70	0.173	−0.019	0.073	0.036	0.037	−0.105	−0.001

E.F.L=80.013(±7.2°)　B.F.L=55.22

＊＊＊1=28.04;　＊＊＊2=15.52;　＊＊＊3=1.08

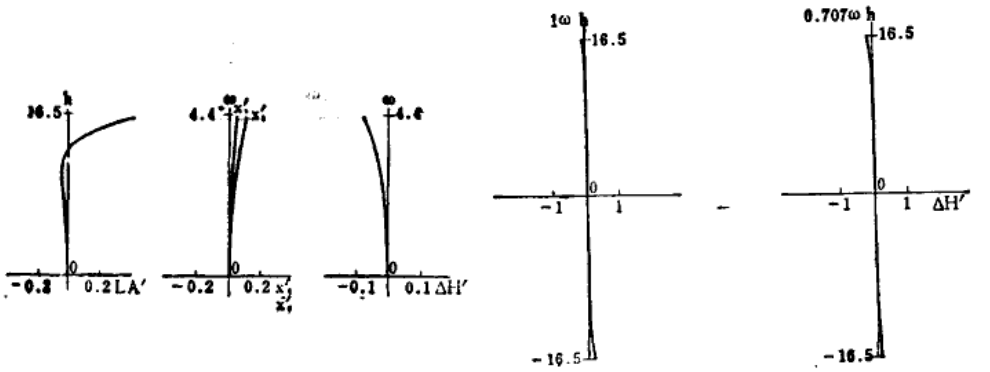


10-03-026-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	−0.0039	0.0028	0.0010	0.0010	−0.0202	10.15	−0.78%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{T}_1$	$K\dot{T}_{0.7}$
100	0.466	−0.079	0.114	0.064	0.050	−0.066	0.023
70	−0.044	−0.027	0.063	0.033	0.030	−0.048	0.017

E.F.L=131.988(±4.4°)　B.F.L=56.07

＊＊＊1=45.64;　＊＊＊2=4.34;　＊＊＊3=1.59

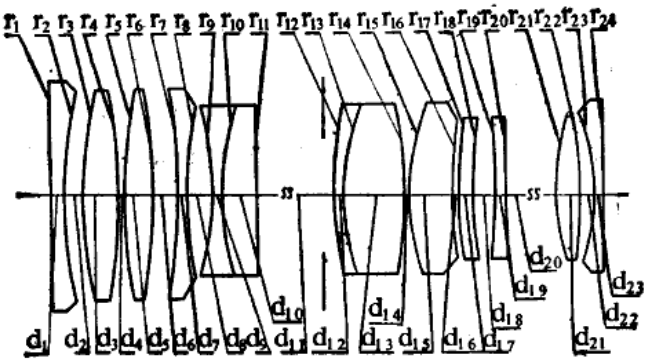


编号：10-03-027

35mm摄影机(SLR)远摄变焦距物镜

E.F.L＝42.204～188.914　　B.F.L＝26.10～53.14　　FNo.＝4

F.A.＝±16°**～±4.8°**



序号	r	d	n	v	序号	r	d	n	v
1	1424.543	2.00	1.83400	37.2	13	28.555	10.46	1.49700	81.3
2	-91.344	3.23			14	-85.070	0.10		
3	108.199	6.60	1.48749	70.1	15	28.669	7.54	1.68100	63.4
4	-130.636	0.10			16	91.643	0.20		
5	114.625	4.90	1.48749	70.1	17	55.099	2.86	1.64000	60.1
6	-198.474	＊＊＊1			18	74.395	3.48		
7	-191.827	1.40	1.77250	49.6	19	-297.878	1.80	1.84666	23.9
8	106.316	4.36			20	509.166	23.62		
9	-49.308	1.40	1.78800	47.4	21	45.494	4.34	1.83400	37.2
10	35.107	5.75	1.84666	23.9	22	-138.486	2.38		
11	-16518.160	＊＊＊2*			23	-27.219	1.50	1.88300	40.8
12	94.828	1.40	1.63980	34.5	24	334.498			

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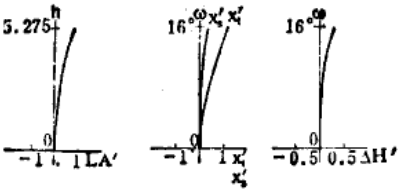
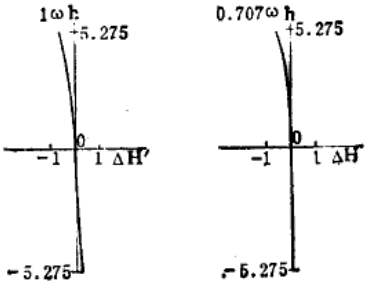
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0 0287	0.0170	0.0172	0.0007	0.0936	12.09	2.74%
h 或ω%	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	Kf_1	$Kf_{0.7}$
100	0.897	0.332	1.345	0.433	0.912	0.304	0.132
70	0.454	0.116	0.681	0.229	0.452	0.175	0.077

E.F L=42.204(±16°**) B F L=26.10

***1=4.26; ***2*=35.03*=33.43+1.60



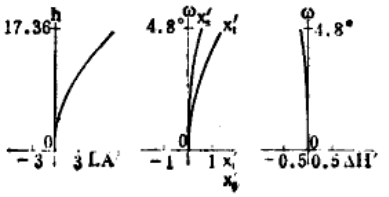


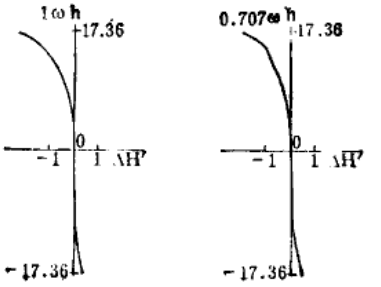
10-03-027-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.1846	0.0410	0.0144	0.0007	−0.0385	11.55	−1.45%
h 或ω%	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	Kf_1	$Kf_{0.7}$
100	7.162	−0.168	1.414	0.474	0.940	1.153	0.348
70	3.201	−0.057	0.707	0.240	0.467	0.787	0.246

E.F L=138.914(±4.8°**) B.F L=53.14

***1=46.26; ***2*=3.20*=1.60+1.60



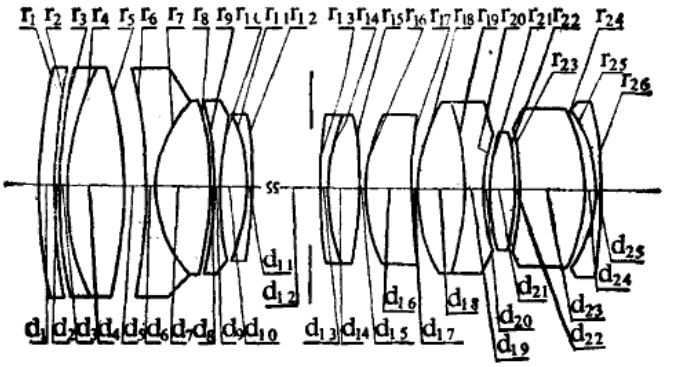


编号：10-03-028

35mm摄影机(SLR)远摄变焦距物镜

E.F.L=51.989～194.013　B.F.L=36.90～87.08　FNo.=4**

F.A.=±16°**～±4.8°**



序号	r	d	n	v	序号	r	d	n	v
1	90.698	2.89	1.48749	70.1	14	32.036	5.58	1.61800	63.4
2	145.567	0.10			15	-82.062	0.14		
3	120.994	1.20	1.63980	34.6	16	25.263	7.66	1.61800	63.4
4	43.381	9.73	1.48749	70.1	17	127.432	0.08		
5	-138.870	*** 1			18	22.961	8.38	1.48749	70.1
6	-201.499	1.20	1.61800	63.4	19	-75.531	2.86	1.81600	46.8
7	19.335	9.58	1.63980	34.6	20	19.243	1.92		
8	-64.384	0.12			21	40.710	4.46	1.72825	28.5
9	-75.274	1.30	1.77250	49.6	22	-61.155	0.10		
10	63.620	4.15			23	-57.625	11.29	1.81600	46.8
11	-31.785	1.11	1.62230	53.2	24	-28.277	2.14		
12	-112.736	*** 2*			25	-19.412	1.20	1.88300	41.0
13	175.956	1.20	1.76180	27.1	26	-106.468			

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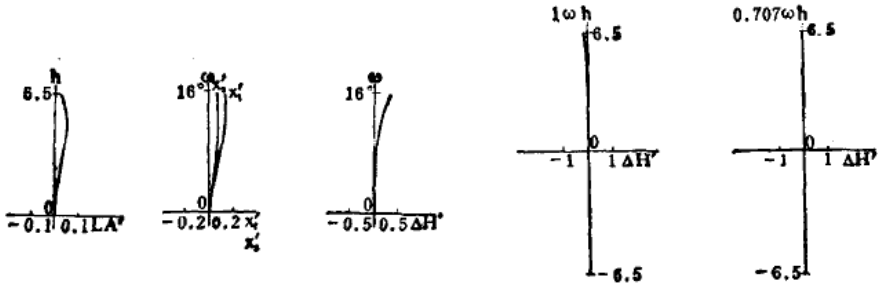
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0061	0.0033	0.0032	0.0046	0.0931	14.89	2.28%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.024	0.340	0.157	0.085	0.072	0.027	0.020
70	0.054	0.119	0.147	0.082	0.065	0.007	0.010

E.F.L=51.989(±16°**)　　B.F.L=36.90

＊＊＊1=3.80;　＊＊＊2*=30.96*=29.36+1.60

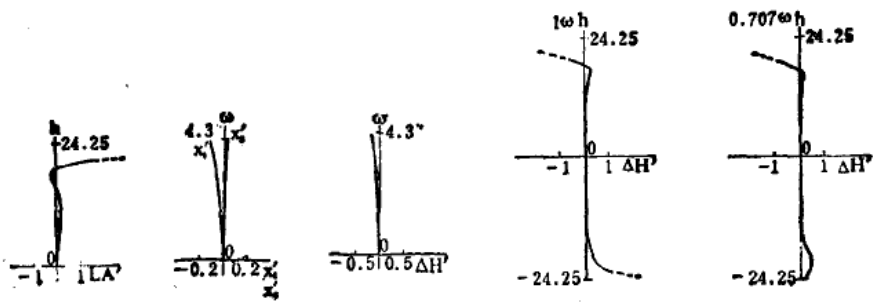


10-03-028-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0747	0.0034	−0.0033	0.0044	−0.0411	14.57	−1.17%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−5.327	−0.170	−0.152	0.023	−0.175	1.240	−0.098
70	−0.096	−0.059	−0.082	0.015	−0.097	7.573	−0.062

E.F.L=194.013(±4.3°**)　　B.F.L=87.08

＊＊＊1=31.42;　＊＊＊2*=3.33*=1.73+1.60

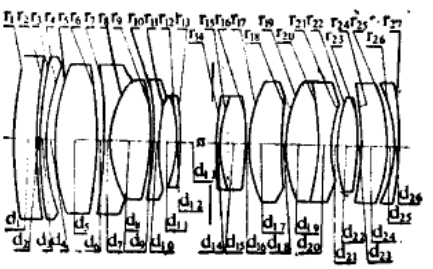


编号：10-03-029

35mm摄影机(SLR)远摄变焦距物镜

E.F.L＝52.004～194.037　　B.F.L＝36.91～87.41　　FNo.＝2.9～5.8

F.A.＝±16°～±4.3°****



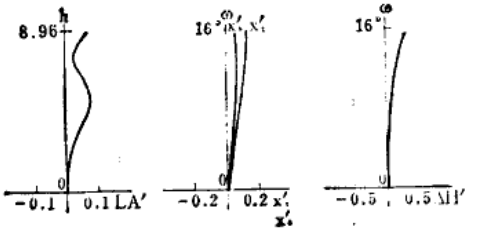
序号	r	d	n	ν	序号	r	d	n	ν
1	106.463	5.73	1.48749	70.1	15	30.521	6.20	1.64000	60.2
2	232.301	0.10			16	－81.897	0.14		
3	125.510	1.60	1.64769	33.8	17	25.123	7.98	1.64000	60.2
4	43.622	1.61			18	111.479	0.10		
5	43.955	10.52	1.48749	70.1	19	23.363	8.41	1.48749	70.1
6	－128.260	＊＊＊1			20	－69.850	3.43	1.81600	46.8
7	－151.637	1.40	1.64000	60.2	21	19.018	2.15		
8	20.251	9.64	1.64769	33.8	22	38.478	5.35	1.71736	29.5
9	－57.769	0.10			23	－62.200	0.27		
10	－82.471	1.30	1.77250	49.6	24	－59.154	6.61	1.81600	46.8
11	65.005	4.40			25	－27.907	2.15		
12	－28.276	1.30	1.61720	54.0	26	－18.890	1.20	1.88300	41.0
13	－94.640	＊＊＊2*			27	－100.511			
14	181.414	1.20	1.76180	27.1					

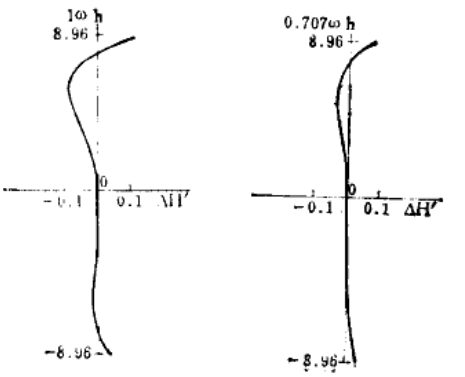
10-03-029-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0289	0.0136	0.0065	0.0072	0.1135	14.89	2.03%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.076	0.303	0.141	0.063	0.078	－0.085	0.046
70	0.075	0.106	0.135	0.069	0.066	－0.059	0.018

E.F.L＝52.004(±16°**)　　B.F.L＝36.91　　FNo.＝2.9

＊＊＊1＝1.77，＊＊＊2*＝27.44*＝26.64＋0.80



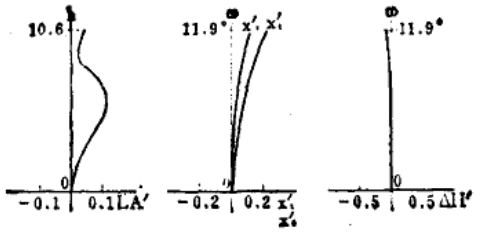


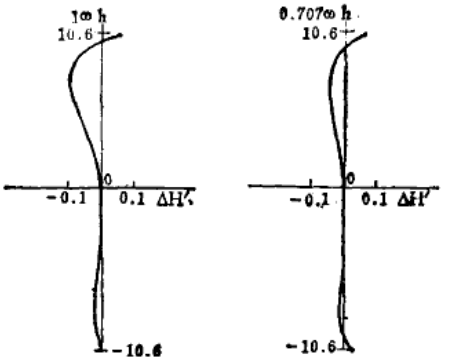
10-03-029-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0306	0.0156	0.0024	0.0054	−0.0134	11.69	−0.50%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.038	−0.073	0.225	0.101	0.124	−0.031	0.056
70	0.105	−0.022	0.134	0.071	0.063	−0.038	0.031

E.F.L=69.994(±11.9°)　B.F.L=44.28　FNo.=3.3

＊＊＊1=9.06,　＊＊＊2*=20.14*=19.34+0.80



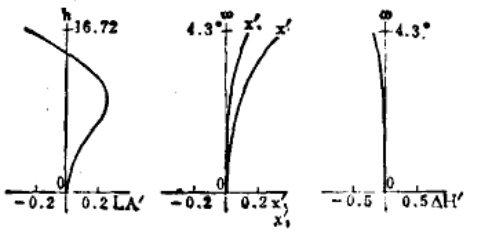


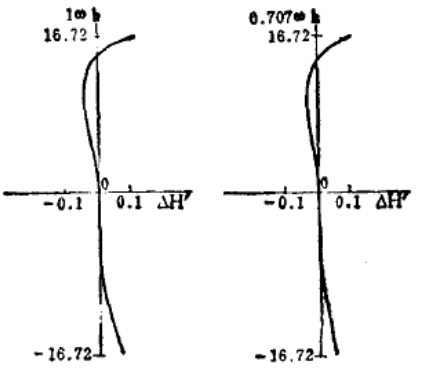
10-03-029-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0230	0.0064	0.0010	0.0017	−0.0283	14.58	−1.16%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.334	−0.170	0.363	0.174	0.189	−0.109	0.007
70	0.274	−0.059	0.171	0.089	0.082	−0.076	0.009

E.F.L=194.037(±4.3°**)　B.F.L=87.41　FNo.=5.8

＊＊＊1=27.68,　＊＊＊2*=1.52*=0.72+0.80

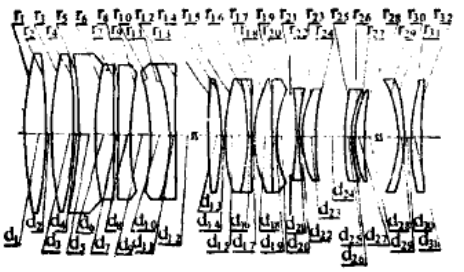




编号：10-03-030

35mm摄影机(SLR)远摄变焦距物镜

E.F.L＝185.996～390.146　B.F.L＝46.9　FNo.＝4.5　F.A.＝±6.67°～±3.17°



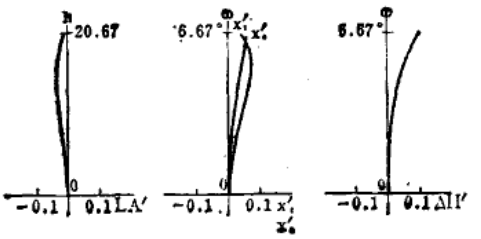
序号	r	d	n	v	序号	r	d	n	v
1	216.203	11.00	1.48749	70.1	17	－2221.231	0.10		
2	－368.228	0.10			18	54.000	8.25	1.61800	63.4
3	210.000	11.55	1.48749	70.1	19	921.767	2.68	1.68893	31.1
4	－300.000	1.05			20	48.800	＊＊＊3*		
5	－289.670	8.22	1.77250	49.6	21	－155.000	2.49	1.81600	46.6
6	159.718	9.50	1.48749	70.1	22	89.373	0.10		
7	∞	＊＊＊1			23	39.688	6.06	1.61293	37.0
8	2539.340	6.50	1.61800	63.4	24	199.610	16.27		
9	140.152	9.24			25	189.738	2.22	1.83481	42.7
10	－102.000	9.76	1.80518	25.4	26	29.702	1.26		
11	－62.234	2.89	1.61800	63.4	27	34.227	4.27	1.67270	32.1
12	636.576	＊＊＊2			28	328.301	71.17		
13	400.000	7.09	1.61800	63.4	29	－46.966	3.40	1.83481	42.7
14	－117.000	0.10			30	－85.000	2.38		
15	89.240	11.82	1.64328	47.9	31	75.123	4.50	1.61293	37.0
16	－89.240	2.99	1.74077	27.8	32	317.405			

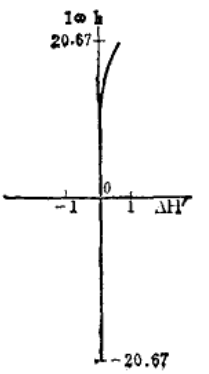
10-03-030-1

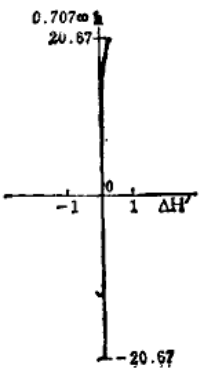
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	－0.00061	0.00698	0.00141	0.00228	－0.03606	21.67	0.52%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.0074	0.113	0.042	0.064	－0.022	－0.360	－0.054
70	－0.0336	0.035	0.077	0.053	0.024	－0.102	－0.003

E.F.L＝185.996(±6.67°)

＊＊＊1＝1.85;　＊＊＊2＝76.02;　＊＊＊3*＝8.39*＝5.89＋2.50





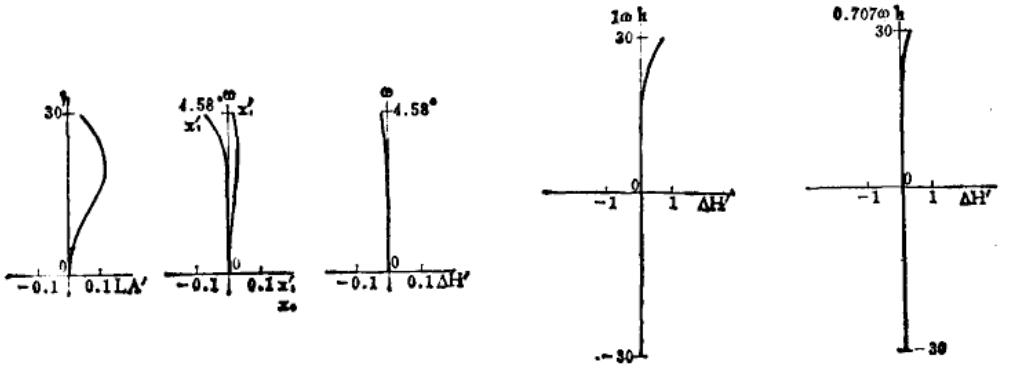


10-03-030-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.01312	0.00670	−0.00002	0.00227	−0.04020	21.64	−0.05%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.046	−0.012	−0.087	0.016	−0.103	−0.351	−0.058
70	0.134	−0.008	0.002	0.027	−0.025	−0.095	−0.004

E. F. L = 270.025(±4.58°)

＊＊＊1 = 34.37; ＊＊＊2 = 37.98; ＊＊＊3 * = 13.91* = 11.41 + 2.5

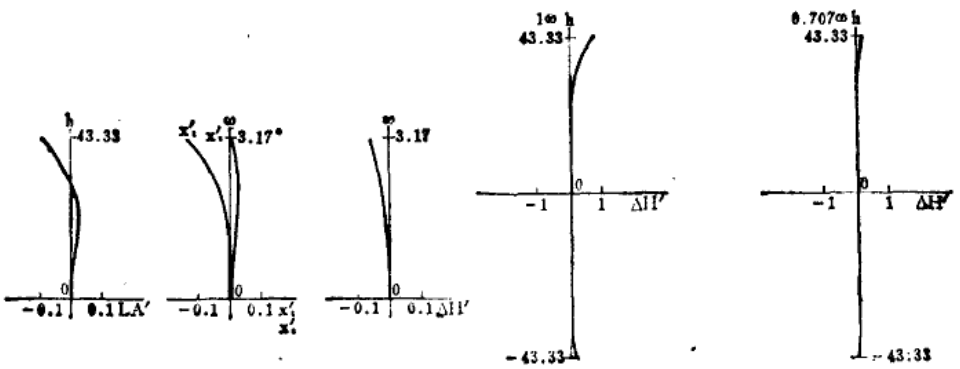


10-03-030-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00492	0.00769	−0.00064	0.00223	−0.03519	21.47	−0.34%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.106	−0.073	−0.143	−0.004	−0.139	−0.395	−0.066
70	0.012	−0.030	−0.031	0.014	−0.045	−0.118	−0.007

E. F. L = 390.146(±3.17°)

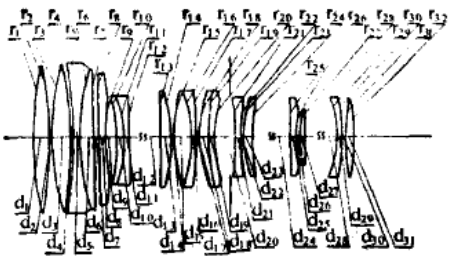
＊＊＊1 = 67.16; ＊＊＊2 = 1.94; ＊＊＊3 * = 17.17* = 14.67 + 2.5



编号：10-03-031

35mm摄影机(SLR)远摄变焦距物镜

E.F.L＝185.021～390.023　B.F.L＝47.9　FNo.＝5.6　F.A.＝±6.65°～±3.14°



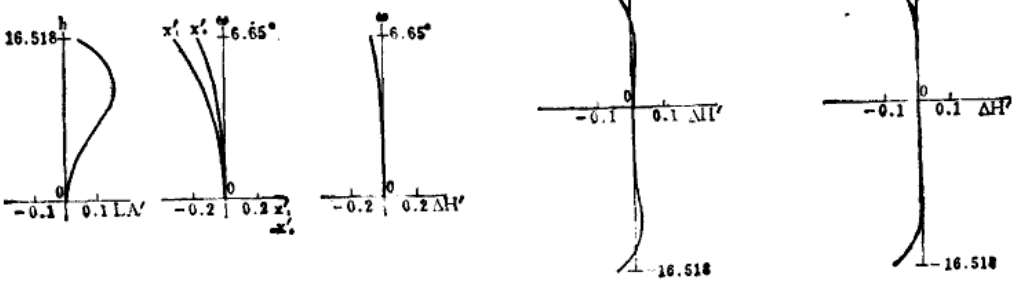
序号	r	d	n	ν	序号	r	d	n	ν
1	260.000	7.00	1.48749	70.1	17	－263.618	0.10		
2	－260.000	0.10			18	50.501	4.74	1.61800	63.4
3	131.000	8.80	1.49700	81.3	19	118.000	2.47	1.66680	33.0
4	－294.907	1.09			20	47.175	＊＊＊3*		
5	－289.338	3.55	1.77250	49.6	21	－150.000	2.00	1.77250	49.6
6	112.942	6.99	1.48749	70.1	22	93.000	0.10		
7	∞	＊＊＊1			23	44.100	4.70	1.63636	35.4
8	－550.000	2.65	1.61800	63.4	24	166.607	40.34		
9	137.272	5.31			25	696.315	2.40	1.83481	42.7
10	－92.741	3.94	1.80518	25.4	26	32.889	0.95		
11	－51.000	2.45	1.61800	63.4	27	37.300	2.75	1.64769	33.8
12	762.000	＊＊＊2			28	－792.000	40.94		
13	900.000	4.94	1.61800	63.4	29	－35.750	2.86	1.83481	42.7
14	－100.422	0.10			30	－94.500	0.87		
15	93.720	8.25	1.62230	53.2	31	118.500	3.75	1.62588	35.7
16	－71.000	2.50	1.80518	25.4	32	－118.500			

10-03-031-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0097	0.0012	－0.0007	－0.0004	－0.0251	21.55	－0.35%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.041	－0.077	－0.342	－0.179	－0.163	0.143	0.007
70	0.158	－0.030	－0.125	－0.061	－0.064	0.147	0.026

E.F.L＝185.021(±6.65°)

＊＊＊1＝2.33，＊＊＊2＝67.70，＊＊＊3*＝10.61*＝8.11＋2.50

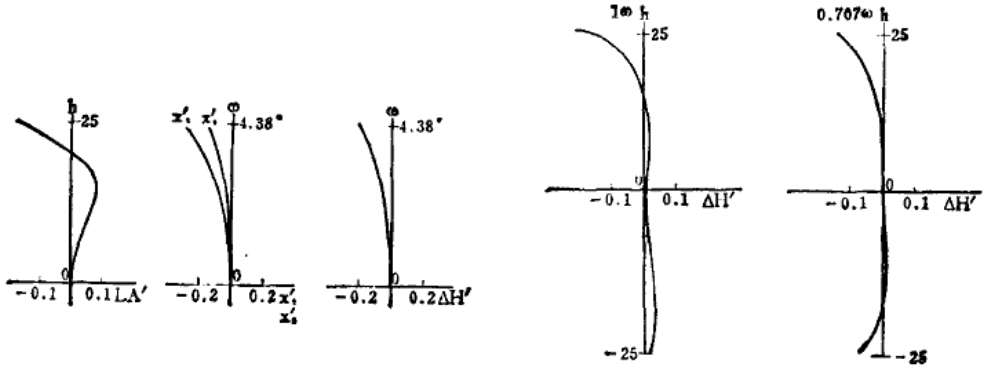


10-03-031-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0077	0.0011	-0.0007	0.0004	-0.0446	21.32	-1.02%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.199	-0.217	-0.308	-0.173	-0.135	0.089	-0.008
70	0.070	-0.079	-0.119	-0.061	-0.058	0.118	0.018

E. F. L = 279.994(±4.38°)

＊＊＊ 1 = 36.01; ＊＊＊ 2 = 31.02; ＊＊＊ 3 * = 13.61* = 11.11 + 2.50

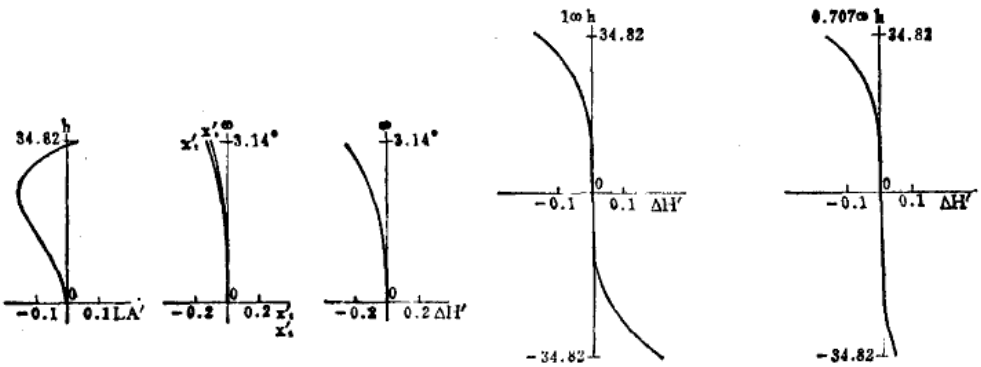


10-03-031-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	-0.0091	0.0050	5×10^{-6}	-0.0004	-0.0544	21.47	-1.31%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.044	-0.282	-0.135	-0.125	-0.010	-0.013	-0.016
70	-0.161	-0.102	-0.039	-0.037	-0.002	0.057	0.016

E. F. L = 390.023(±3.14°)

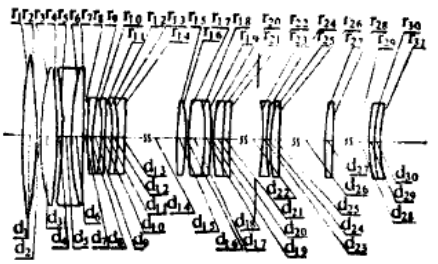
＊＊＊ 1 = 73.04; ＊＊＊ 2 = 1.53; ＊＊＊ 3 * = 6.07* = 3.57 + 2.50



编号：10-03-032

35mm摄影机(SLR)小型超远摄变焦距物镜

E.F.L＝254.022～980.025　B.F.L＝200.05　FNo.＝10　F.A.＝±4.81°～±1.26°



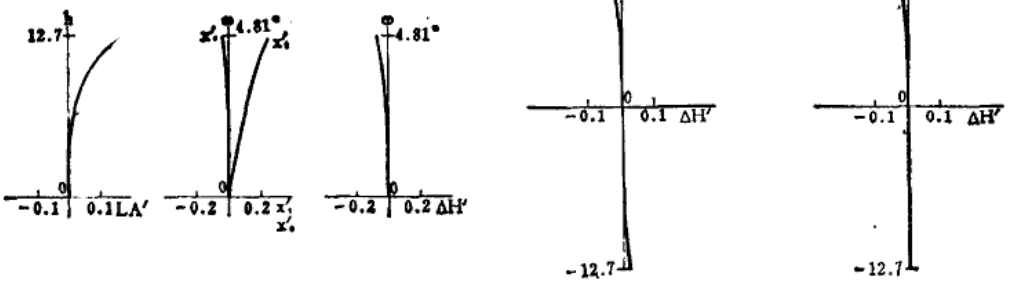
序号	r	d	n	v	序号	r	d	n	v
1	500.000	7.09	1.49700	81.3	17	270.359	7.09	1.61800	63.4
2	－646.382	0.22			18	－105.738	3.36	1.64769	33.8
3	322.505	8.09	1.49700	81.3	19	－755.188	0.10		
4	－696.315	1.75			20	144.780	3.68	1.69680	56.5
5	－680.500	4.28	1.74400	44.7	21	445.920	2.64	1.74077	27.8
6	360.000	5.81	1.56873	63.2	22	200.000	＊＊＊3*		
7	1966.422	＊＊＊1			23	－288.350	2.01	1.77250	49.6
8	605.547	2.65	1.49700	81.3	24	143.660	0.10		
9	174.750	3.55			25	101.090	4.10	1.59270	35.3
10	－189.000	2.80	1.61800	63.4	26	868.000	70.28		
11	∞	2.39			27	814.439	3.57	1.80518	25.4
12	－237.849	3.68	1.74077	27.8	28	∞	43.07		
13	－99.340	3.00	1.51821	65.0	29	79.199	2.01	1.74077	27.8
14	957.523	＊＊＊2			30	122.016	2.17	1.83481	42.7
15	816.500	4.91	1.49700	81.3	31	58.575			
16	－172.273	0.10							

10-03-032-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.00006	0.00063	0.00093	－0.00110	－0.00723	21.38	－0.35%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.169	－0.076	0.258	－0.062	0.320	0.023	0.008
70	0.044	－0.026	0.148	－0.024	0.172	0.019	0.007

E.F.L＝254.022(±4.81°)

＊＊＊1＝1.83，＊＊＊2＝215.34，＊＊＊3*＝21.06*＝18.46＋2.6

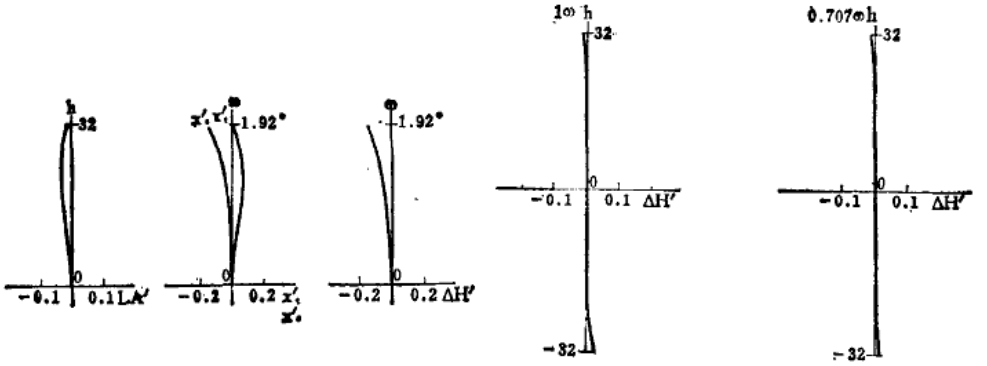


10-03-032-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	−0.00057	-7×10^{-8}	0.00049	−0.00111	−0.01657	21.44	−0.79%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.019	−0.170	−0.003	−0.151	0.148	−0.001	−0.003
70	−0.034	−0.059	0.017	−0.068	0.085	0.0027	−0.0003

E.F.L=639.960(±1.92°)

＊＊＊1=134.31; ＊＊＊2=65.08; ＊＊＊3*=38.85*=36.25+2.60

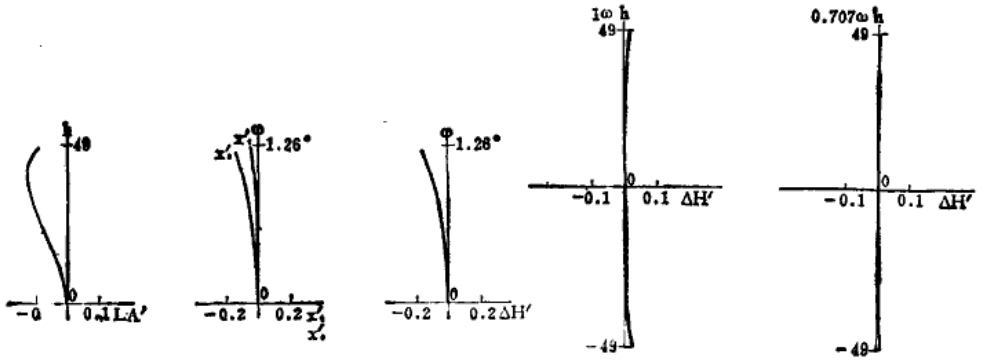


10-03-032-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	−0.00195	−0.00043	0.00042	−0.00112	−0.01813	21.56	−0.86%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.096	−0.185	−0.043	−0.167	0.124	−0.021	−0.011
70	−0.124	−0.064	−0.003	−0.077	0.074	−0.010	−0.006

E.F.L=980.025(±1.26°)

＊＊＊1=232.82; ＊＊＊2=0.79; ＊＊＊3*=4.62*=2.02+2.60

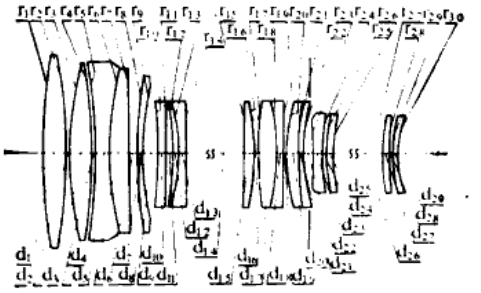


编号：10-03-033

35mm摄影机(SLR)小型超远摄变焦距物镜

E.F.L＝136.702～589.799　　B.F.L＝135.75～136.43

FNo.＝6.7　　F.A.＝±8.91°～±2.07°



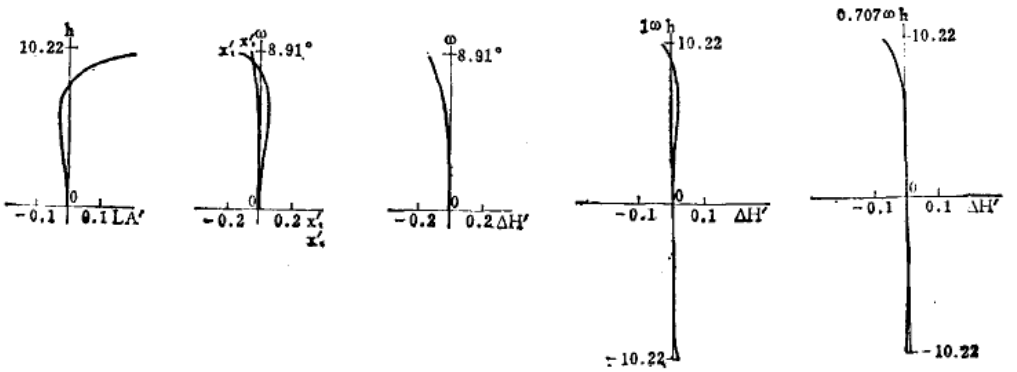
序　号	r	d	n	ν
1	380.579	10.00	1.51728	69.6
2	-380.579	0.13		
3	210.000	9.70	1.49700	81.3
4	-370.000	1.47		
5	-360.000	5.21	1.77250	49.6
6	191.355	7.28	1.48749	70.1
7	∞	＊＊＊1		
8	384.822	2.90	1.49700	81.3
9	108.664	6.37		
10	-170.124	2.80	1.61800	63.4
11	2037.300	2.87		
12	-131.719	2.89	1.71736	29.5
13	-57.789	2.79	1.61800	63.4
14	-624.975	＊＊＊2		
15	∞	4.70	1.61800	63.4
16	-115.170	0.10		
17	144.780	7.02	1.67000	57.3
18	-85.000	2.80	1.74077	27.8
19	-712.969	0.10		
20	76.282	4.79	1.61800	63.4
21	448.000	2.68	1.60342	38.0
22	93.000	＊＊＊3*		
23	-241.000	3.51	1.77250	49.6
24	82.400	0.10		
25	58.481	3.48	1.68893	31.1
26	149.326	62.64		
27	41.848	2.71	1.59951	39.2
28	83.914	0.10		
29	54.300	1.91	1.80400	46.6
30	32.583			

10-03-033-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	-0.0026	0.0025	0.0019	-0.0014	-0.0163	21.43	-0.67%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.200	-0.144	-0.135	-0.091	-0.044	0.005	-0.010
70	-0.016	-0.046	0.072	-0.009	0.081	0.038	0.009

E. F. L = 136.702(±8.91°)　　B. F. L = 135.75

＊＊＊1 = 3.07;　＊＊＊2 = 159.89;　＊＊＊3* = 3.55* = 1.75 + 1.80

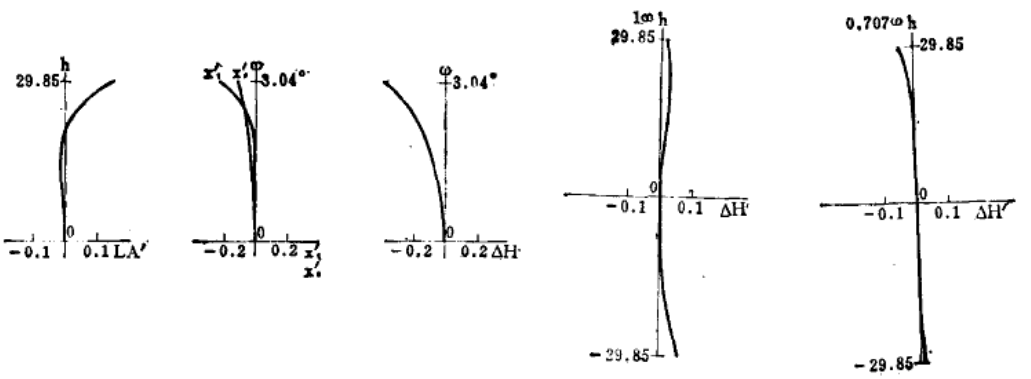


10-03-033-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	-0.0014	0.0020	0.0013	-0.0014	-0.0597	21.31	-2.04%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.164	-0.436	-0.267	-0.147	-0.120	-0.037	-0.028
70	0.001	-0.148	0.002	-0.037	0.039	0.018	0.001

E. F. L = 401.867(±3.04°)　　B. F. L = 136.82

＊＊＊1 = 110.94;　＊＊＊2 = 40.57;　＊＊＊3* = 15.01* = 13.21 + 1.80

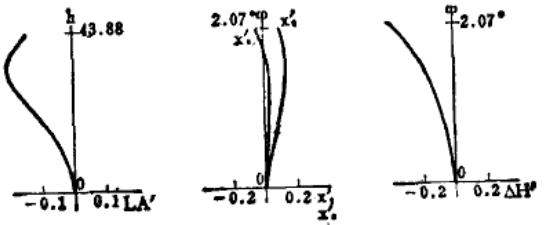


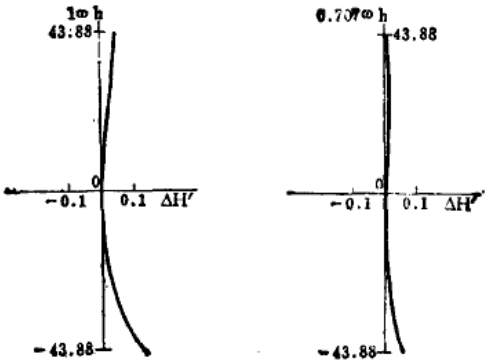
10-03-033-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0074	0.0007	0.0024	-0.0014	-0.0620	21.24	-2.11%
h 或 ω %	LA′	ΔH′	X_i	x_i	$x_i - x_i'$	K_{T1}	$K_{T0.7}$
100	-0.149	-0.448	0.098	-0.036	0.134	-0.106	-0.052
70	-0.217	-0.152	0.170	0.015	0.155	0.021	-0.012

E. F. L = 589.799(± 2.07′)　　B. F. L = 136.43

＊＊＊ 1 = 159.79;　＊＊＊ 2 = 1.69;　＊＊＊3* = 5.03* = 3.23 + 1.80

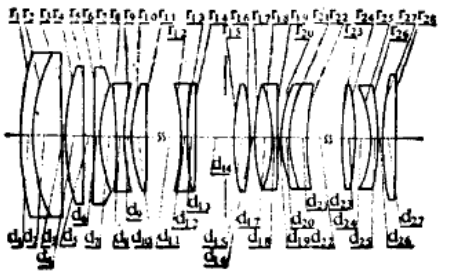




编号：10-03-034

高性能变焦距物镜

E.F.L=51.081～130.812 B.F.L=36.51 FNo.=3.5 F.A.=±22.9°～±9.8°



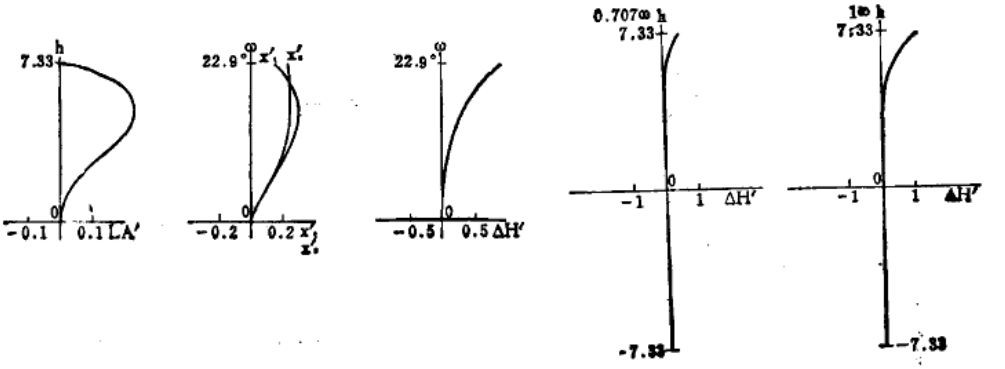
序　号	r	d	n	v
1	105.4700	2.650	1.80518	25.4
2	50.9225	7.400	1.65844	50.9
3	264.5000	0.150		
4	72.8780	5.000	1.69680	55.5
5	712.1360	＊＊＊1		
6	-443.3000	1.700	1.77250	49.6
7	25.9420	4.691		
8	-109.4000	1.600	1.77250	49.6
9	75.4020	1.880		
10	45.2119	3.600	1.80518	25.4
11	-891.8300	＊＊＊2		
12	- 70.0000	1.300	1.60311	60.7
13	146.5600	2.000	1.60342	38.0
14	-315.7500	＊＊＊3*		
15	68.6360	3.900	1.69680	55.5
16	- 92.5000	0.150		
17	58.2631	4.838	1.48749	70.1
18	- 48.0700	1.400	1.74950	35.3
19	273.9300	0.150		
20	26.2280	2.000	1.75520	27.5
21	20.3420	4.488	1.48749	70.1
22	53.4500	28.600		
23	149.3000	3.440	1.53358	51.6
24	- 57.8764	3.620		
25	- 20.4571	1.700	1.77250	49.6
26	- 76.4693	0.150		
27	67.1080	3.150	1.54739	53.6
28	-417.2430			

10-03-034-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0379	0.0158	0.0093	0.0185	-0.1025	21.57	3.88%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.013	0.838	0.136	0.227	-0.091	-0.538	-0.076
70	0.266	0.274	0.327	0.224	0.103	-0.286	-0.028

E.F.L=51.081(±22.9°)

＊＊＊1=2.100; ＊＊＊2=28.026; ＊＊＊3*=9.500*=8.000+1.500

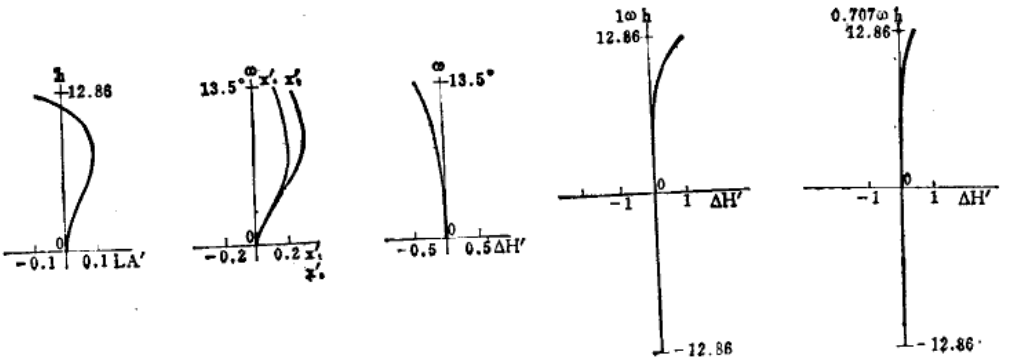


10-03-034-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0197	0.0118	0.0064	0.0184	-0.2276	21.49	-2.06%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.098	-0.443	0.268	0.143	0.125	-0.531	-0.089
70	0.113	-0.147	0.348	0.214	0.134	-0.212	-0.020

E.F.L=89.527(±13.5°)

＊＊＊1=23.195; ＊＊＊2=5.672; ＊＊＊3*=10.760*=9.260+1.500

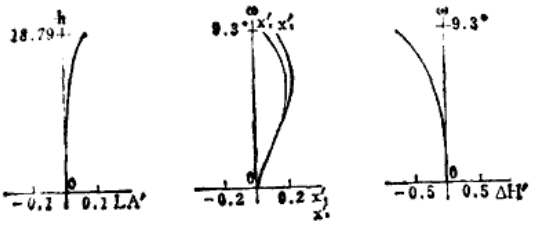


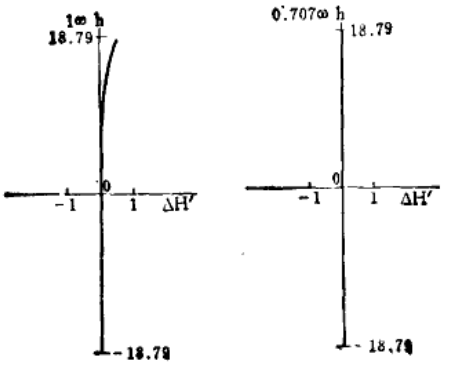
10-03-034-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0057	0.0046	0.0057	0.0183	-0.2588	21.41	-3.52%
h 或 ω %	LA′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.071	-0.754	0.148	0.072	0.076	-0.197	-0.050
70	0.022	-0.256	0.266	0.183	0.083	0.003	-0.001

E.F.L=130.812(±9.3°)

＊＊＊1=34.094，＊＊＊2=2.813，＊＊＊3*=2.720*=1.220+1.500

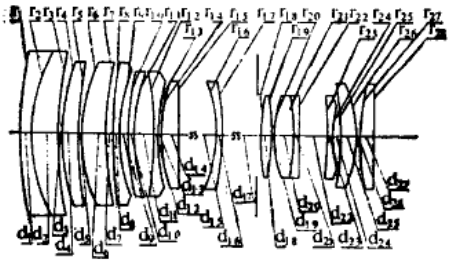




编号：10-03-035

高性能变焦距物镜

E.F.L＝34.331～96.731 B.F.L＝51.00 FNo.＝3.5 F.A.＝±22.9°～±8°**



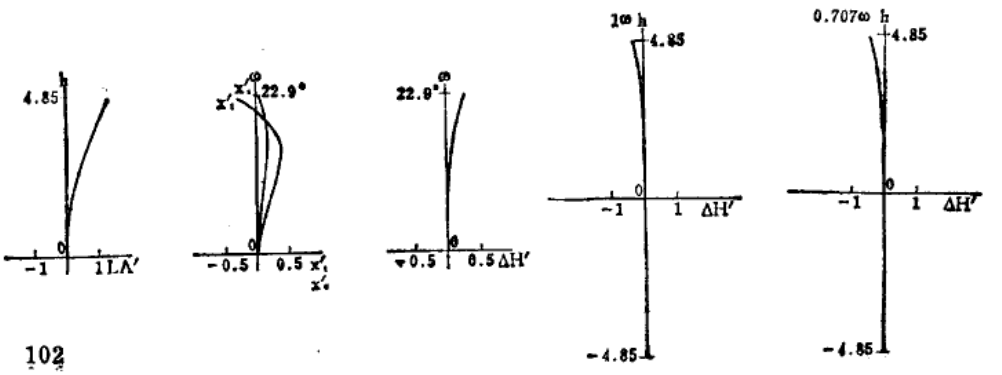
序号	r	d	n	v	序号	r	d	n	v
1	118.603	2.80	1.80518	25.4	15	－6974.390	＊＊＊2		
2	46.402	6.97	1.65844	50.9	16	－34.387	1.40	1.69680	55.5
3	127.020	0.10			17	－91.235	＊＊＊3*		
4	71.531	4.24	1.69680	55.5	18	63.150	2.92	1.69680	55.5
5	189.422	0.10			19	－63.352	0.10		
6	46.371	6.26	1.69680	55.5	20	25.661	4.69	1.54072	47.2
7	173.027	＊＊＊1			21	－35.874	1.20	1.80400	46.6
8	220.423	1.60	1.83481	42.7	22	∞	6.68		
9	23.904	1.81			23	－159.879	1.50	1.84666	23.9
10	41.883	1.50	1.80400	46.6	24	32.418	2.30		
11	19.011	4.60			25	－96.759	3.07	1.60311	60.7
12	－189.831	1.30	1.69680	55.5	26	－27.265	0.16		
13	45.629	0.39			27	42.353	3.30	1.60311	60.7
14	28.390	4.04	1.84666	23.9	28	421.790			

10-03-035-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.0734	0.0082	－0.0056	0.0100	－0.4460	14.50	2.25%
h或ω%	LA′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	1.396	0.327	－0.345	0.043	－0.388	0.136	0.081
70	0.829	0.112	0.392	0.199	0.193	0.203	0.115

E.F.L＝34.331(±22.9°**)

＊＊＊1＝1.444，＊＊＊2＝16.612，＊＊＊3*＝10.400*＝9.400＋1.000

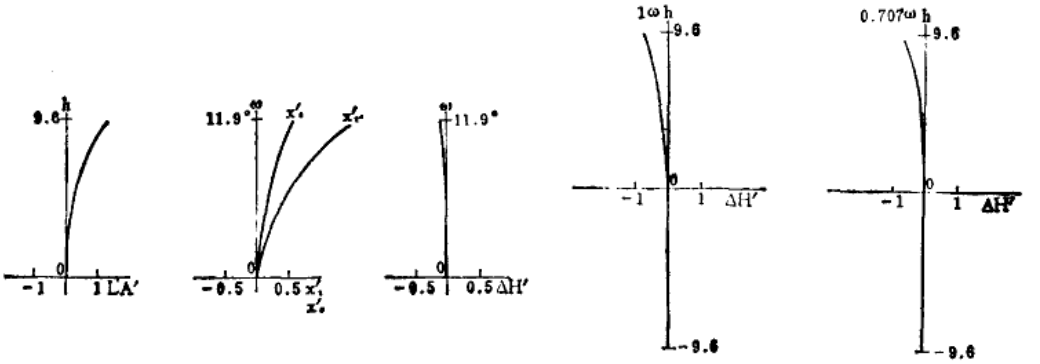


10-03-035-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0583	0.0353	0.0119	0.0096	−0.1449	13.93	−0.84%
h 或 ω%	LA′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	1.237	−0.117	1.565	0.599	0.966	0.439	0.233
70	0.665	−0.039	0.733	0.303	0.430	0.291	0.152

E.F.L=66.376(±11.9°)

＊＊＊1=17.051; ＊＊＊2=3.009; ＊＊＊3*=8.400*=7.400+1.000

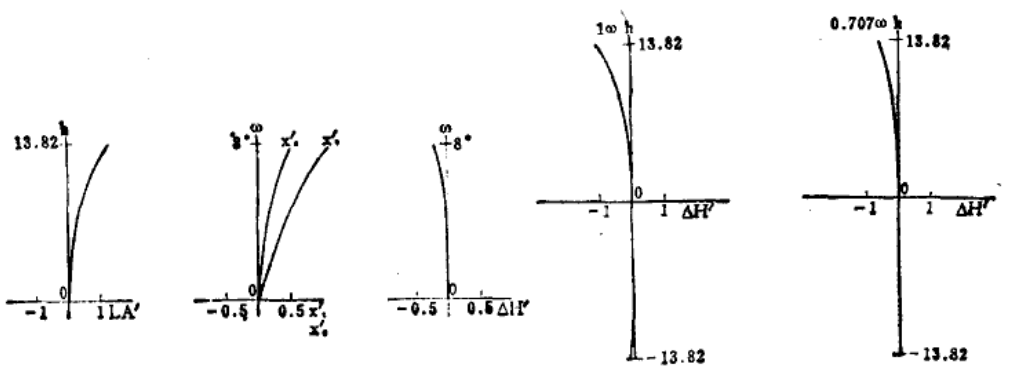


10-03-035-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0437	0.0282	0.0122	0.0089	−0.1036	13.59	−1.62%
h 或 ω%	LA′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	1.344	−0.220	1.330	0.528	0.802	0.582	0.235
70	0.579	−0.074	0.653	0.276	0.377	0.373	0.148

E.F.L=96.731(±8°**)

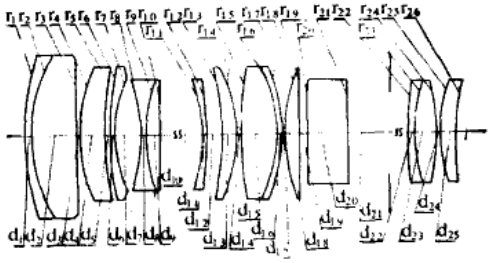
＊＊＊1=23.459; ＊＊＊2=2.924; ＊＊＊3*=2.073*=1.073+1.000



编号：10-03-036

大孔径2/3英寸电视摄影机变焦距物镜

E.F.L＝11.735～66.962 B.F.L＝16.63 FNo.＝1.2** F.A.＝±12°**～±2°**



序号	r	d	n	v	序号	r	d	n	v
1	82.283	1.3	1.80518	25.5	14	－22.593	0.1		
2	41.208	11.7	1.71300	53.9	15	153.920	9.0	1.56384	60.8
3	－395.394	0.1			16	－21.084	1.0	1.74000	28.2
4	42.755	5.7	1.51680	64.2	17	－46.347	0.2		
5	92.175	＊＊＊1			18	44.489	3.8	1.74000	44.9
6	122.416	1.0	1.74443	49.4	19	362.562	1.8		
7	15.859	6.5			20	∞	10.0	1.57501	41.3
8	－20.060	1.0	1.60311	60.7	21	∞	25.1*		
9	22.337	3.5	1.80518	25.5	22	144.303	1.0	1.74000	28.2
10	－6704.737	＊＊＊2			23	17.591	6.0	1.56384	60.8
11	－21.619	1.0	1.60311	60.7	24	－52.016	0.2		
12	－189.609	＊＊＊3			25	19.770	4.0	1.51680	64.2
13	－42.947	3.9	1.71300	53.9	26	136.874			

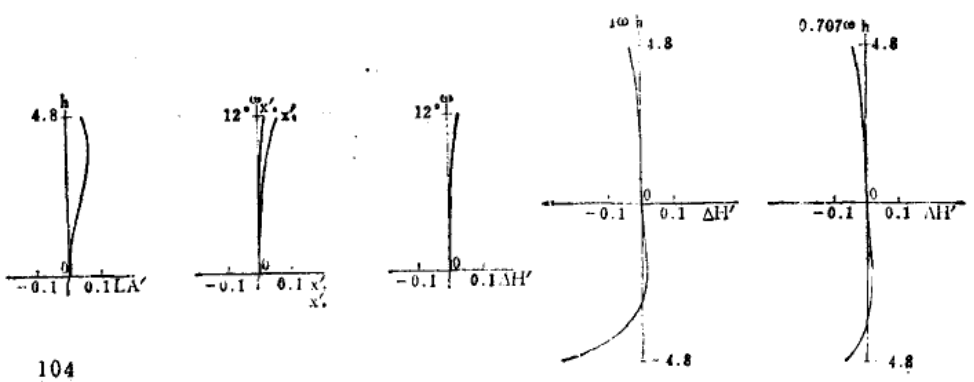
25.1*＝10.0＋15.1

10-03-036-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0720	－0.0195	0.0055	0.0021	0.0284	2.48	1.20%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.044	0.029	0.061	0.021	0.040	0.149	0.026
70	0.064	0.011	0.017	0.007	0.010	0.073	0.009

E.F.L＝11.735(±12°**) FNo.＝1.22

＊＊＊1＝1.96; ＊＊＊2＝32.71; ＊＊＊3＝3.42

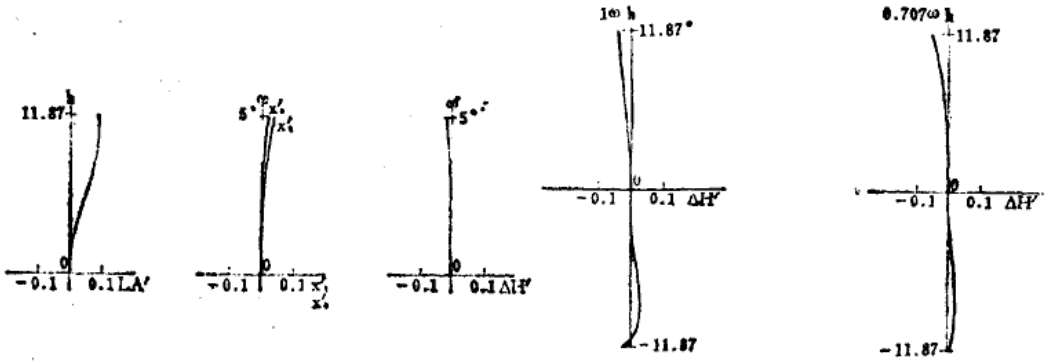


10-03-036-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0831	-0.0167	0.0031	0.0022	-0.0054	2.45	-0.32%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.083	-0.008	0.040	0.014	0.026	0.022	-0.012
70	0.077	-0.002	0.016	0.006	0.010	0.023	-0.005

E.F.L=28.025(±5°)　FNo.=1.18

＊＊＊1=20.04;　＊＊＊2=12.06;　＊＊＊3=6.00

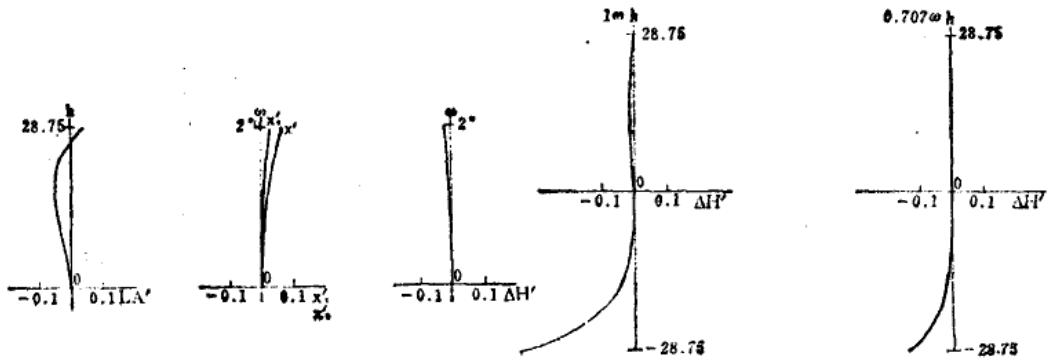


10-03-036-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	-0.0734	0.0073	0.0064	0.0020	-0.0132	2.34	-0.69%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.053	-0.016	0.066	0.024	0.042	0.220	0.037
70	-0.042	-0.005	0.031	0.011	0.020	0.080	0.014

E.F.L=66.962(±2°)　FNo.=1.164

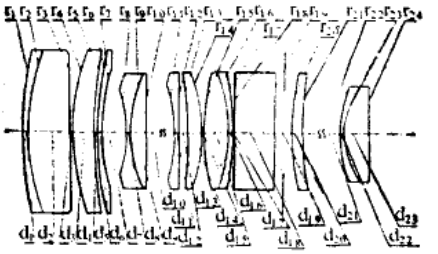
＊＊＊1=31.05;　＊＊＊2=4.00;　＊＊＊3=3.05



编号：10-03-037

高倍率大孔径2/3英寸电视摄影机变焦距物镜

E.F.L＝11.234～85.363 B.F.L＝11.43 FNo.＝1.6 F.A.＝±12°～±1.5°****



序号	r	d	n	v	序号	r	d	n	v
1	87.620	1.3	1.80518	25.5	13	－158.642	3.2	1.71300	53.9
2	47.000	10.3	1.65160	58.5	14	－29.277	0.1		
3	－401.700	0.1			15	61.016	5.9	1.58913	61.2
4	49.640	5.4	1.51680	64.2	16	－22.400	1.0	1.80518	25.5
5	129.551	＊＊＊1			17	－50.736	0.3		
6	89.890	1.0	1.71300	53.9	18	∞	10.0	1.57501	41.3
7	15.410	5.8			19	∞	4.0*		
8	－20.400	1.0	1.58913	61.2	20	40.658	2.5	1.74443	49.4
9	18.050	3.9	1.71736	29.5	21	103.601	29.7		
10	－298.366	＊＊＊2			22	16.288	1.0	1.75520	27.5
11	－23.880	1.0	1.60311	60.7	23	8.967	6.0	1.56883	56.0
12	－227.227	＊＊＊3			24	－1564.799			

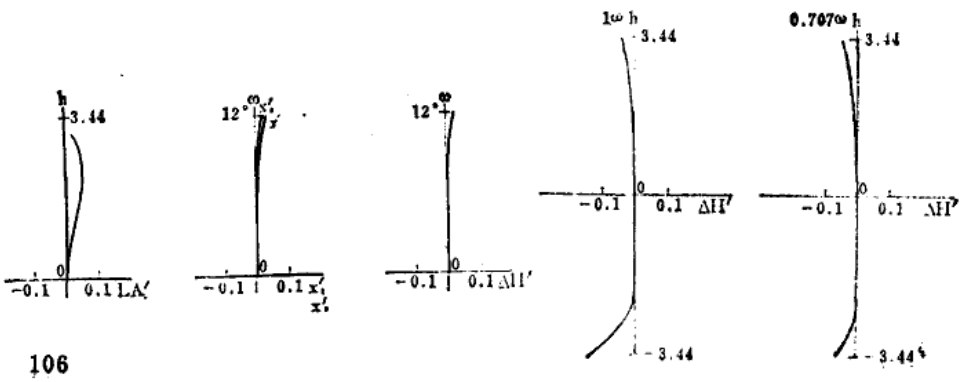
4.0*＝2.0＋2.0

10-03-037-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0380	0.0024	－0.0014	0.0037	0.0177	2.38	1.06%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.006	0.025	0.015	0.015	0	0.097	0.022
70	0.057	0.009	0.007	0.008	－0.001	0.059	0.017

E.F.L＝11.234(±12°**)

＊＊＊1＝0.89；＊＊＊2＝41.97；＊＊＊3＝2.11

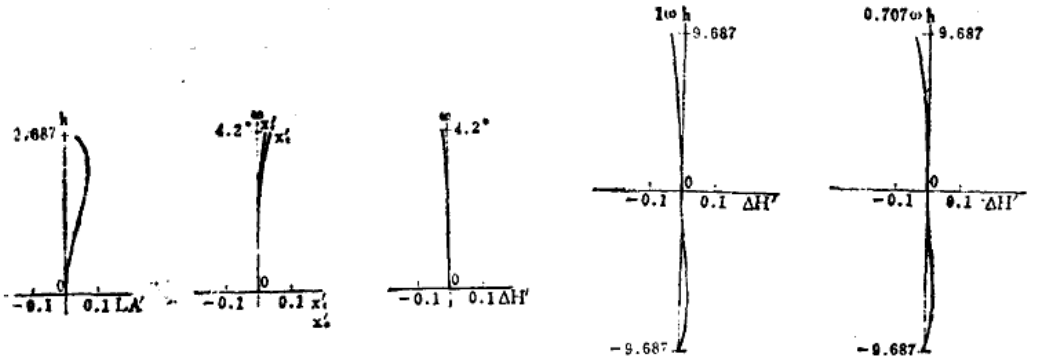


10-03-037-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0452	0.0026	0.0016	0.0036	−0.0065	2.27	−0.50%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.032	−0.011	0.040	0.026	0.014	0.023	0.006
70	0.074	−0.003	0.021	0.013	0.008	0.023	0.007

E.F.L=30.963(±4.2°)

＊＊＊1=25.76; ＊＊＊2=13.27; ＊＊＊3=5.93

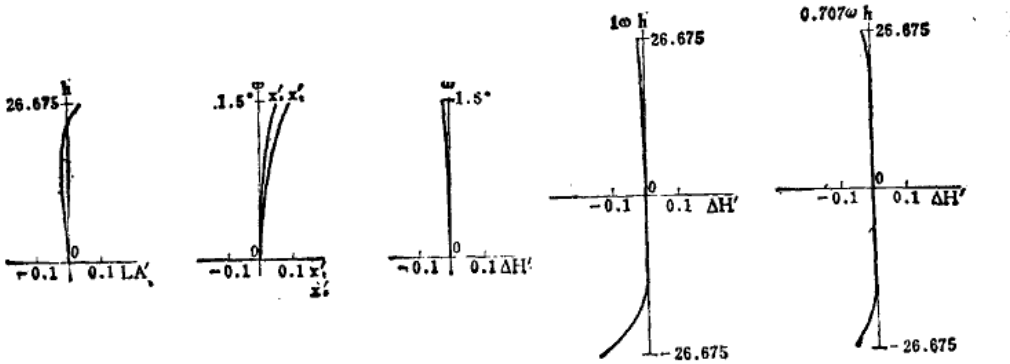


10-03-037-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	−0.0211	8×10^{-5}	0.0064	0.0034	−0.0086	2.23	−0.64%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.032	−0.014	0.106	0.048	0.058	0.081	0.016
70	−0.019	−0.005	0.056	0.024	0.032	0.041	0.007

E.F.L=85.363(±1.5°)

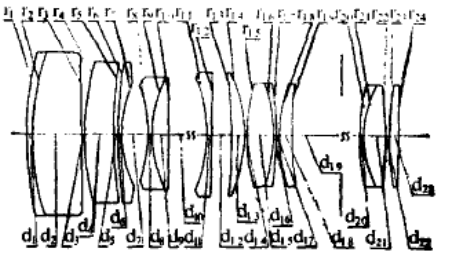
＊＊＊1=39.85; ＊＊＊2=3.26; ＊＊＊3=1.88



编号：10-03-038

高倍率大孔径2/3英寸电视摄影机变焦距物镜

E.F.L＝10.684～10.1606 B.F.L＝13.48 FNo.＝1.6 F.A.＝±12°**～±1.2°**



序号	r	d	n	ν	序号	r	d	n	ν
1	97.177	1.3	1.80518	25.5	13	−211.000	3.4	1.74443	49.4
2	53.212	12.5	1.65160	58.5	14	−30.530	0.1		
3	−799.589	0.1			15	66.041	6.8	1.58913	61.2
4	55.667	7.0	1.51860	70.1	16	−24.732	1.1	1.78470	26.1
5	172.998	＊＊＊1			17	−83.595	0.1		
6	167.781	1.0	1.65160	58.5	18	40.841	2.6	1.71300	53.9
7	16.132	6.1			19	167.230	30.0*		
8	−23.692	1.0	1.58913	61.2	20	48.248	1.0	1.74950	35.0
9	18.905	4.0	1.72825	28.3	21	10.845	5.0	1.56883	56.0
10	330.951	＊＊＊2			22	−115.462	1.0		
11	−24.955	1.0	1.60311	60.7	23	60.000	2.1	1.79631	40.8
12	−349.908	＊＊＊3			24	−336.344			

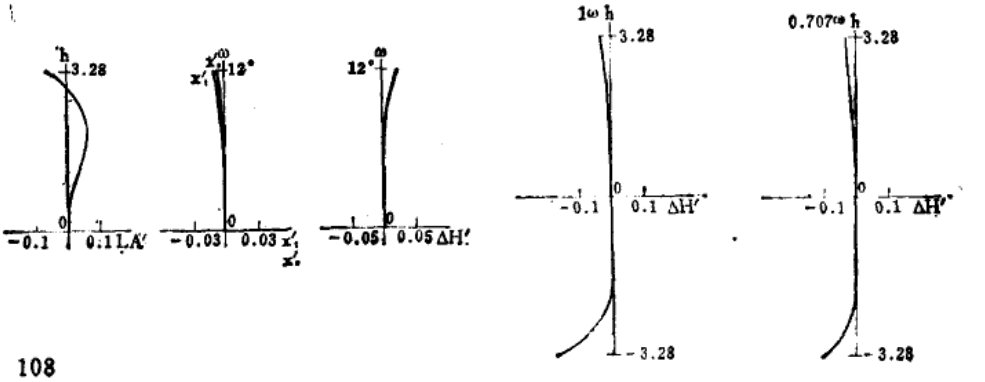
30.0*＝12.0＋18.0

10-03-038-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0524	0.0002	−0.0016	0.0001	0.0158	2.26	0.99%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.073	0.022	−0.011	−0.005	−0.006	0.118	0.025
70	0.064	0.008	−0.007	−0.002	−0.005	0.067	0.017

E.F.L＝10.684(±12°**)

＊＊＊1＝0.96，＊＊＊2＝50.07，＊＊＊3＝5.12

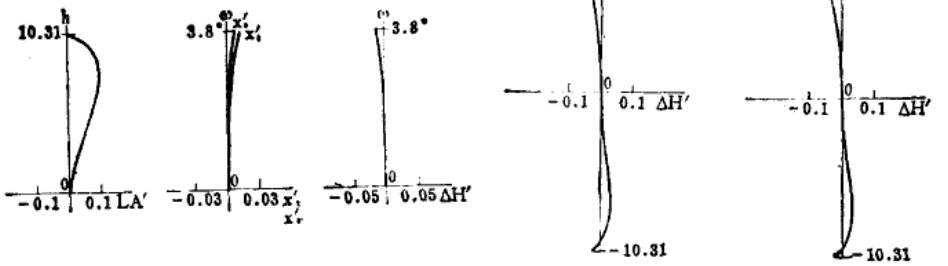


10-03-038-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0715	-0.0020	0.0007	0.0001	-0.0077	2.18	-0.58%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.009	-0.012	0.012	0.004	0.008	0.030	0.003
70	0.107	-0.004	0.005	0.002	0.003	0.025	0.003

E.F.L=32.962(±3.8°)

＊＊＊1=30.80, ＊＊＊2=15.74, ＊＊＊3=9.61

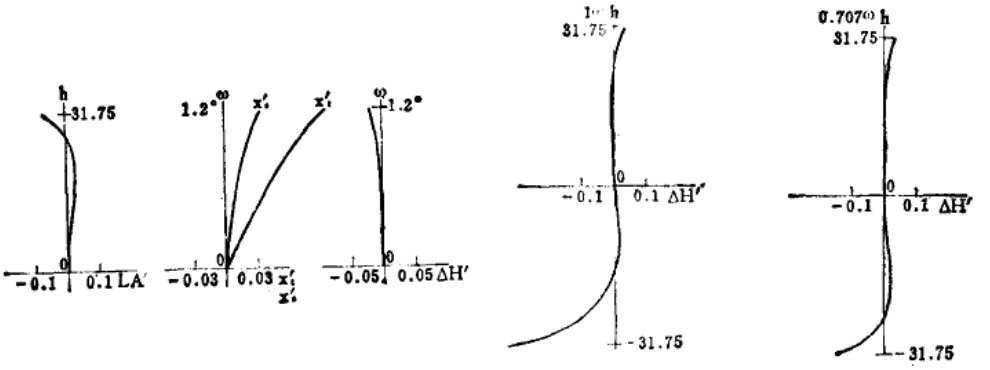


10-03-038-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0229	-0.0114	0.0078	0.0001	-0.0109	2.12	-0.82%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.077	-0.017	0.109	0.037	0.072	0.154	0.018
70	0.022	-0.006	0.057	0.019	0.038	0.074	0.003

E.F.L=101.606(±1.2 **)

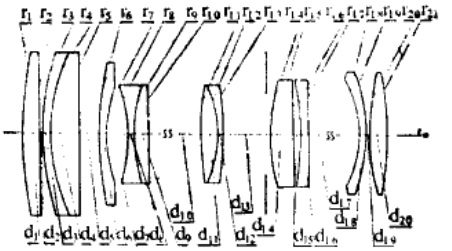
＊＊＊1=46.55, ＊＊＊2=4.48, ＊＊＊3=5.12



编号：10-03-039

全长短的远摄变焦距物镜

E.F.L＝79.941～196.639 B.F.L＝45.85 FNo.＝4.5 F.A.＝±15.11°～±6.26°



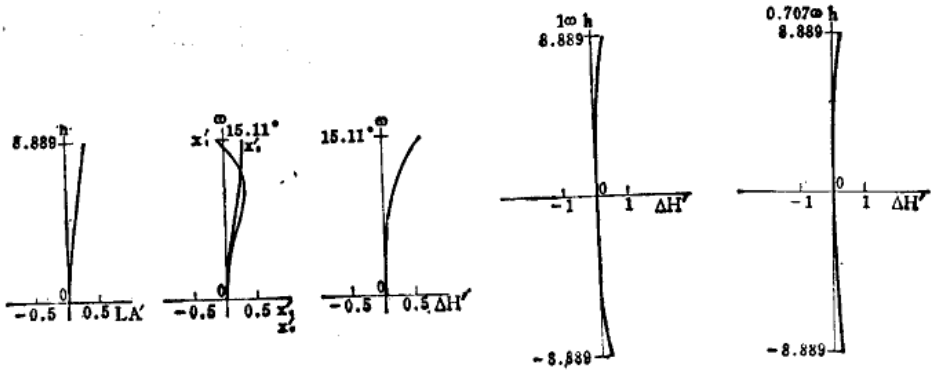
序号	r	d	n	ν	序号	r	d	n	ν
1	169.300	4.00	1.51680	64.2	12	－26.000	1.25	1.62004	36.3
2	－594.270	0.12			13	－116.319	＊＊＊3*		
3	92.560	1.65	1.75570	27.2	14	43.000	5.30	1.56384	60.8
4	51.260	6.85	1.61375	56.3	15	942.715	1.00		
5	591.773	＊＊＊1			16	－153.439	2.00	1.74950	35.0
6	124.160	1.33	1.72000	50.2	17	－587.550	57.80		
7	39.930	5.07			18	－24.100	2.40	1.71300	53.9
8	－45.100	1.24	1.60000	64.2	19	－40.069	0.20		
9	41.070	3.20	1.76182	26.5	20	75.813	4.00	1.51823	59.0
10	290.359	＊＊＊2			21	－151.006			
11	164.560	4.50	1.62041	60.3					

10-03-039-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0130	－0.0116	0.0079	0.0088	0.1349	21.58	2.90%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.316	0.628	－0.092	0.274	－0.366	－0.238	－0.089
70	0.216	0.200	0.323	0.240	0.083	－0.172	－0.068

E.F.L＝79.941(±15.11°)

＊＊＊1＝5.313；＊＊＊2＝38.296；＊＊＊3*＝11.078*＝10.078＋1.000

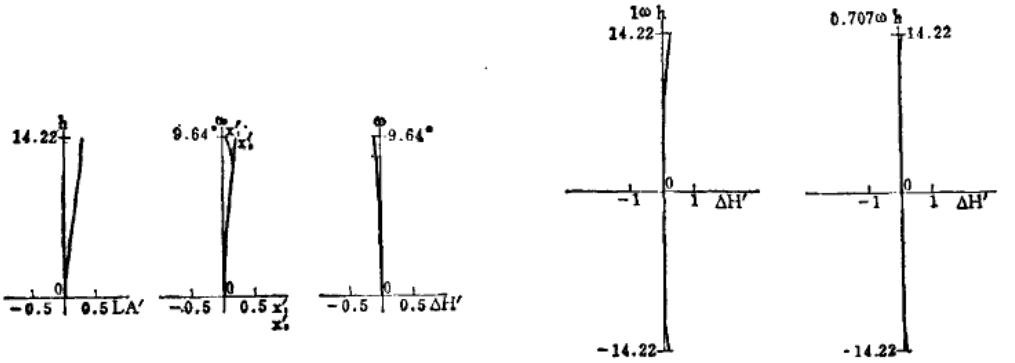


10-03-039-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0100	−0.0076	0.0025	0.0089	−0.0102	21.71	−0.33%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.308	−0.073	0.041	0.173	−0.132	−0.124	−0.038
70	0.182	−0.032	0.147	0.151	−0.004	−0.110	−0.038

E. F. L = 127.880(±9.64°)

＊＊＊1 = 29.313, ＊＊＊2 = 23.197, ＊＊＊3＊ = 2.177＊ = 1.177 + 1.000

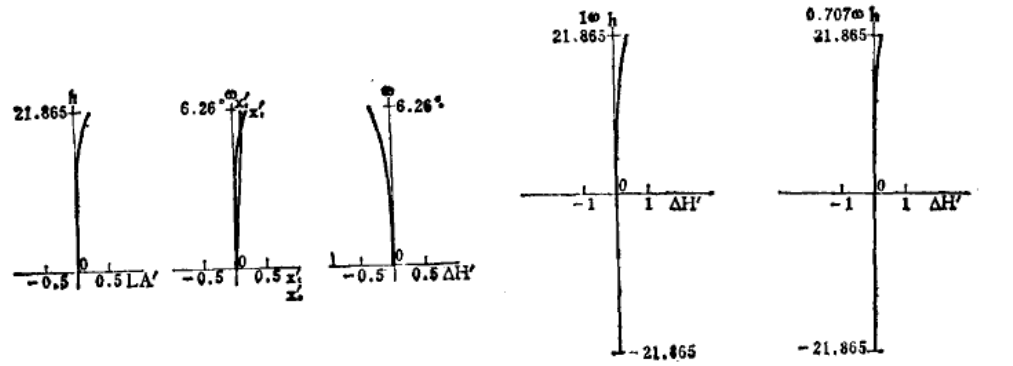


10-03-039-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_6	HI	QP(1ω)
	−0.0014	−0.0075	−0.0013	0.0088	−0.0716	21.55	−1.49%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.265	−0.321	0.176	0.152	0.024	−0.159	−0.066
70	0.047	−0.119	0.081	0.113	−0.032	−0.103	−0.043

E. F. L = 196.639(±6.26°)

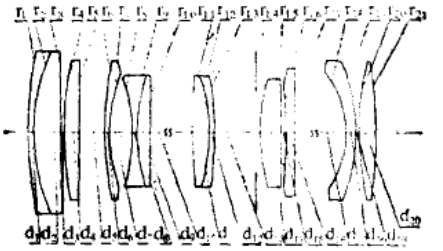
＊＊＊1 = 43.313, ＊＊＊2 = 1.532, ＊＊＊3＊ = 9.870＊ = 8.870 + 1.000



编号：10-03-040

全长短的远摄变焦距物镜

E.F.L＝80.044～196.743 B.F.L＝45.8 FNo.＝4.5 F.A.＝±15.11°～±6.26°



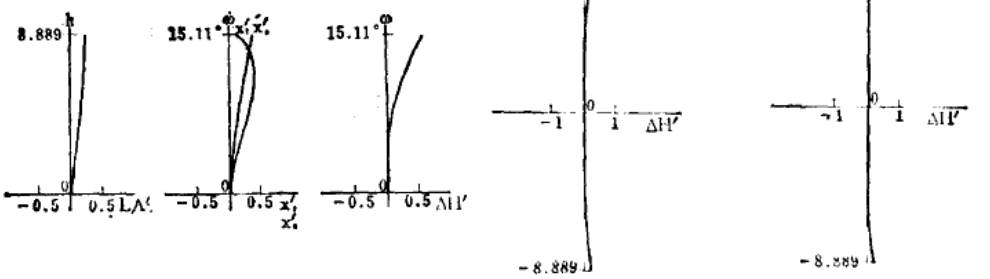
序号	r	d	n	v	序号	r	d	n	v
1	104.890	1.65	1.75570	27.2	12	－51.240	1.25	1.62004	36.3
2	56.030	6.85	1.61375	56.3	13	－109.709	＊＊＊3*		
3	－1109.130	0.12			14	43.000	5.1	1.56384	60.8
4	128.230	4.00	1.51680	64.2	15	942.715	1.00		
5	592.620	＊＊＊1			16	－153.439	2.00	1.74950	35.0
6	123.190	1.33	1.72000	50.2	17	－587.550	57.80		
7	39.110	5.38			18	－24.400	2.40	1.71300	53.9
8	－44.050	1.24	1.60000	64.2	19	－40.069	0.20		
9	41.860	3.20	1.76182	26.5	20	75.813	4.00	1.51823	59.0
10	401.440	＊＊＊2			21	－168.690			
11	180.000	4.50	1.62041	60.3					

10-03-040-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0112	－0.0105	0.0097	0.0087	0.1432	21.61	2.87%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.244	0.621	0.119	0.350	－0.231	－0.217	－0.081
70	0.180	0.198	0.428	0.276	0.152	－0.158	－0.062

E.F.L＝80.044(±15.11°)

＊＊＊1＝6.317；＊＊＊2＝37.867；＊＊＊3*＝11.205*＝10.205＋1.000

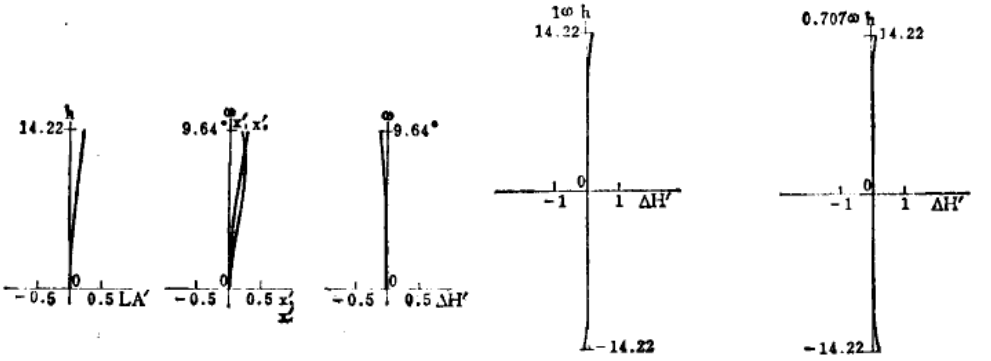


10-03-040-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0085	−0.0073	0.0050	0.0088	−0.0076	21.74	−0.35%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.245	−0.076	0.199	0.255	−0.056	−0.082	−0.020
70	0.151	−0.033	0.267	0.197	0.070	−0.092	−0.031

E.F.L = 128.036(±9.64°)

＊＊＊1 = 30.317; ＊＊＊2 = 22.768; ＊＊＊3＊ = 2.304＊ = 1.304 + 1.000

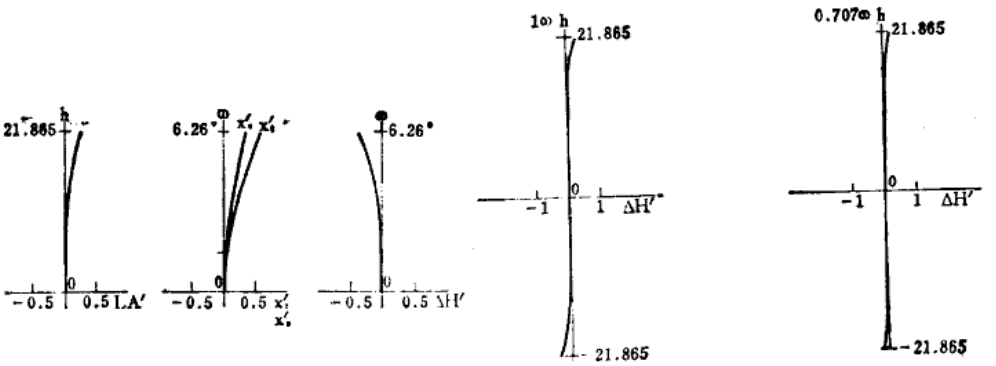


10-03-040-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0011	−0.0095	0.0034	0.0087	−0.0718	21.57	−1.52%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.247	−0.329	0.560	0.318	0.242	−0.028	−0.024
70	0.072	−0.122	0.326	0.203	0.123	−0.048	−0.029

E.F.L = 196.743(±6.26°)

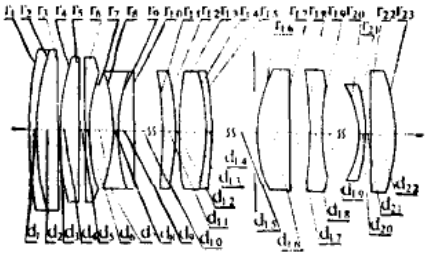
＊＊＊1 = 44.317; ＊＊＊2 = 1.103; ＊＊＊3＊ = 9.997＊ = 8.997 + 1.000



编号：10-03-041

全长短的远摄变焦距物镜

E.F.L=79.995～199.832 B.F.L=54.1 FNo.=4.5 F.A.=±15.11°～±6.17°



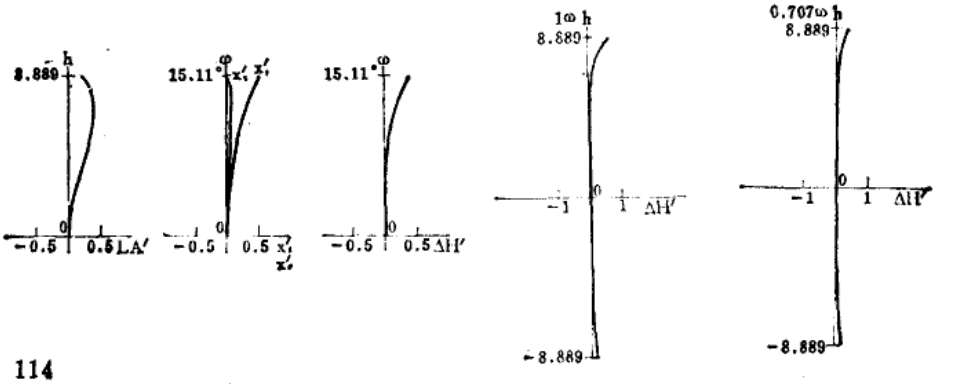
序号	r	d	n	ν	序号	r	d	n	ν
1	164.587	1.80	1.80518	25.5	13	103.905	6.60	1.52000	70.1
2	78.777	5.00	1.52000	70.1	14	-51.174	1.30	1.75692	31.7
3	-495.132	0.10			15	-95.355	＊＊＊3*		
4	80.5	4.50	1.51118	50.9	16	32.050	7.73	1.65830	57.3
5	∞	＊＊＊1			17	-6557.936	5.15		
6	-3000.000	1.30	1.71300	53.9	18	-151.186	2.90	1.74077	27.7
7	39.377	5.70			19	77.279	37.35		
8	-46.793	1.10	1.58913	61.2	20	-17.620	1.45	1.76684	46.6
9	47.803	3.70	1.80518	25.5	21	-32.000	0.80		
10	858.884	＊＊＊2			22	500.000	6.28	1.54072	47.2
11	-137.843	3.00	1.50137	56.5	23	-37.738			
12	-78.921	0.10							

10-03-041-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0298	0.0100	0.0052	-0.0020	0.0242	21.59	1.70%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{r}_1$	$K\dot{r}_{0.7}$
100	0.173	0.367	0.505	-0.010	0.515	-0.382	-0.070
70	0.391	0.119	0.238	0.022	0.216	-0.150	-0.015

E.F.L=79.995(±15.11°)

＊＊＊1=1.367; ＊＊＊2=27.304; ＊＊＊3*=20.568*=19.568+1.000

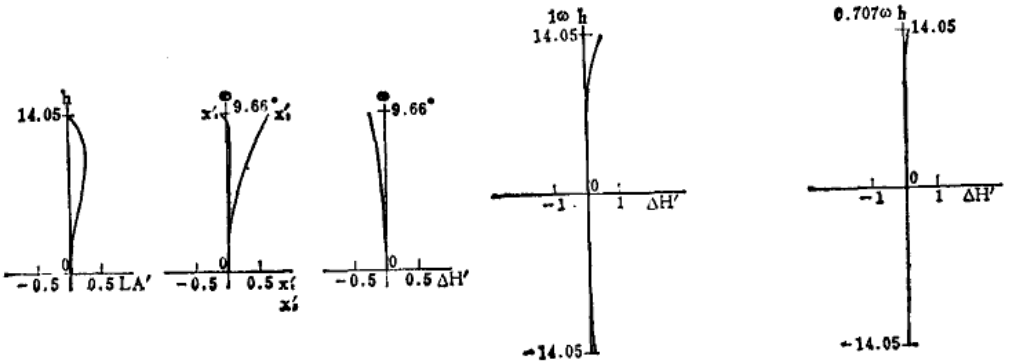


10-03-041-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0241	0.0082	0.0031	-0.0019	-0.0792	21.52	-1.20%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.027	-0.260	0.733	-0.027	0.760	-0.253	-0.027
70	0.297	-0.092	0.266	0.012	0.254	-0.126	-0.003

E.F.L=126.466(±9.66°)

＊＊＊1=28.089, ＊＊＊2=17.304, ＊＊＊3*=3.846*=2.846+1.000

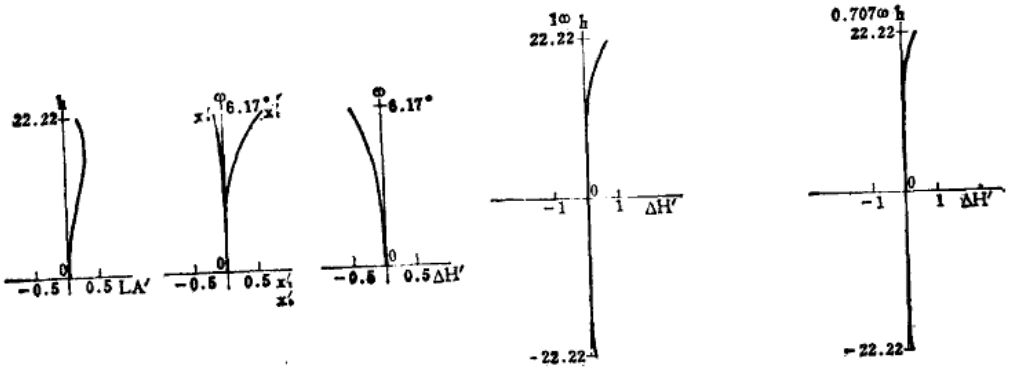


10-03-041-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0188	0.0001	0.0009	-0.0020	-0.1219	21.60	-2.37%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.221	-0.512	0.638	-0.109	0.747	-0.421	-0.101
70	0.285	-0.180	0.148	-0.038	0.186	-0.231	-0.051

E.F.L=199.832(±6.17°)

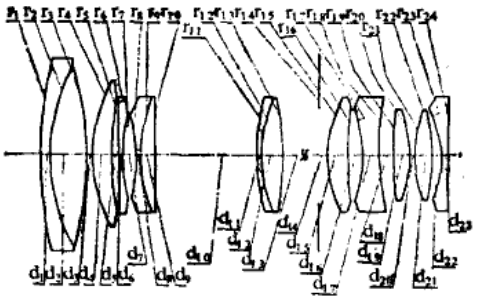
＊＊＊1=44.989, ＊＊＊2=1.492, ＊＊＊3*=2.758*=1.758+1.000



编号: 10-03-042

小 型 变 焦 距 物 镜

E.F.L=9.228～43.809 B.F.L=9.022 FNo.=1.4 F.A.=±12°**～±2.5°****



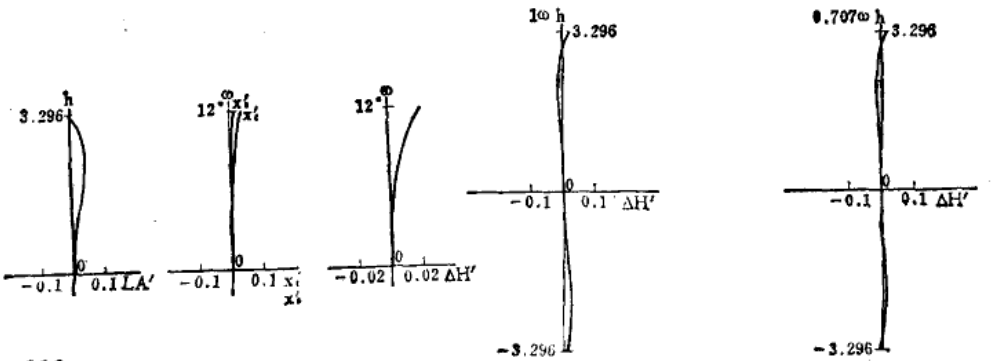
序号	r	d	n	v	序号	r	d	n	v
1	84.146	2.00	1.80518	25.4	13	-52.155	***3*		
2	35.583	7.87	1.58913	61.1	14	∞	1.68		
3	-103.996	0.10			15	16.283	4.35	1.69680	55.5
4	27.917	4.07	1.58913	61.1	16	214.442	3.63		
5	95.165	*** 1			17	-18.519	3.14	1.75520	27.5
6	363.049	0.90	1.69350	53.2	18	46.639	2.67		
7	12.195	2.61			19	103.505	3.63	1.65844	50.9
8	-16.671	0.90	1.69350	53.2	20	-18.965	0.54		
9	13.785	2.79	1.80518	25.4	21	18.834	3.70	1.88300	40.8
10	-7680.848	*** 2			22	-47.131	1.78		
11	34.169	0.90	1.80518	25.4	23	-18.952	0.80	1.92286	20.9
12	16.119	4.82	1.62374	47.1	24	1068.979			

10-03-042-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0431	0.0009	0.0007	0.0015	0.0183	1.95	1.11%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.010	0.021	0.027	0.010	0.017	-0.015	-0.006
70	0.039	0.007	0.010	0.005	0.005	-0.007	-0.001

E.F.L=9.228(±12°**)

*** 1 = 1.495; *** 2 = 21.057; ***3* = 14.215* = 14.215 + 0

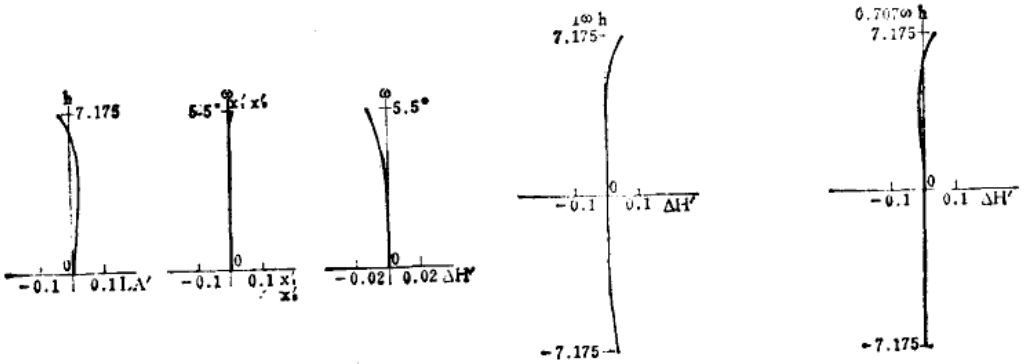


10-03-042-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0324	0.0044	−0.0006	0.0014	−0.0078	1.93	−0.69%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{T}_1$	$K\dot{T}_{0.7}$
100	−0.042	−0.013	0.005	0.004	0.001	−0.034	−0.004
70	0.021	−0.004	0.001	0.002	−0.001	−0.019	−0.001

E.F.L=20.092(±5.5°)

＊＊＊1=14.229; ＊＊＊2=15.225; ＊＊＊3*=7.313*=7.313+0

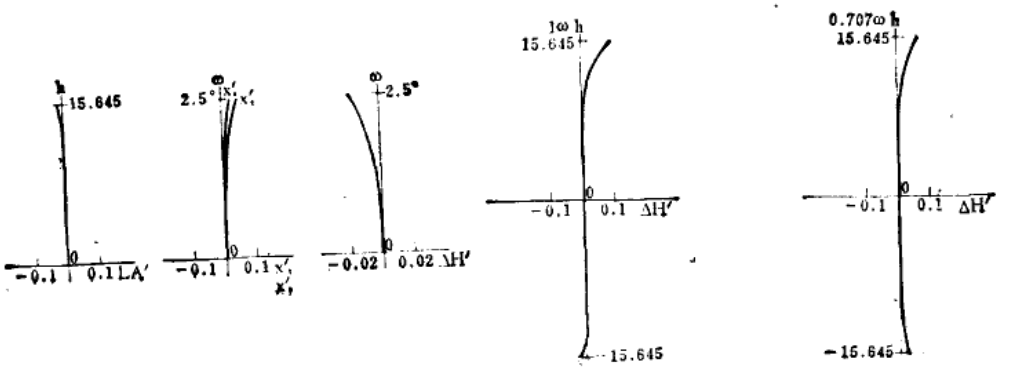


10-03-042-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0091	−0.0017	0.0038	0.0014	−0.0141	1.91	−1.07%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{T}_1$	$K\dot{T}_{0.7}$
100	−0.005	−0.020	0.040	0.017	0.023	−0.039	−0.004
70	0.002	−0.007	0.022	0.009	0.013	−0.039	−0.008

E.F.L=43.809(±2.5°**)

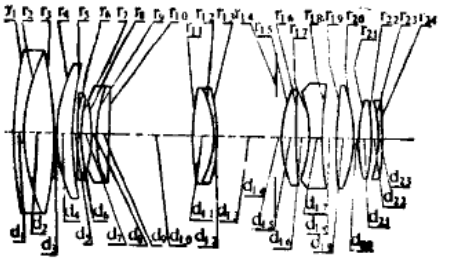
＊＊＊1=20.085; ＊＊＊2=2.495; ＊＊＊3*=14.187*=14.187+0



编号：10-03-043

小 型 变 焦 距 物 镜

E.F.L＝9.226～43.800 B.F.L＝9.091 FNo.＝1.4** F.A.＝±12°**～±2.5°**



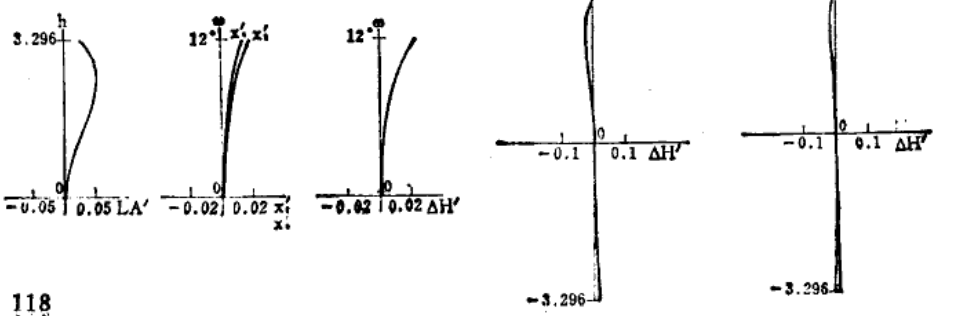
序号	r	d	n	v	序号	r	d	n	v
1	84.146	2.00	1.80518	25.4	13	－35.945	＊＊＊3*		
2	35.583	7.87	1.58913	61.1	14	∞	1.68		
3	－103.996	0.10			15	17.896	3.85	1.83400	37.2
4	27.917	4.07	1.58913	61.1	16	176.521	3.22		
5	95.165	＊＊＊1			17	－23.006	3.01	1.92286	20.9
6	363.049	0.90	1.69350	53.2	18	74.537	3.08		
7	12.195	2.61			19	100.572	4.52	1.65844	50.9
8	－16.671	0.90	1.69350	53.2	20	－19.100	0.21		
9	13.785	2.79	1.80518	25.4	21	18.186	3.77	1.67000	57.4
10	－7680.848	＊＊＊2			22	－58.998	1.75		
11	47.713	5.14	1.62374	47.1	23	－17.527	0.80	1.75520	27.5
12	－16.242	0.90	1.80518	25.4	24	－75.122			

10-03-043-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.0443	0.0062	－0.0008	0.0042	0.0195	1.95	1.19%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.024	0.023	0.017	0.014	0.003	－0.016	0.002
70	0.053	0.008	0.008	0.007	0.001	－0.012	0.003

E.F.L＝9.226(±12°**)

＊＊＊1＝1.495；＊＊＊2＝20.591；＊＊＊3*＝14.215*＝14.215＋0

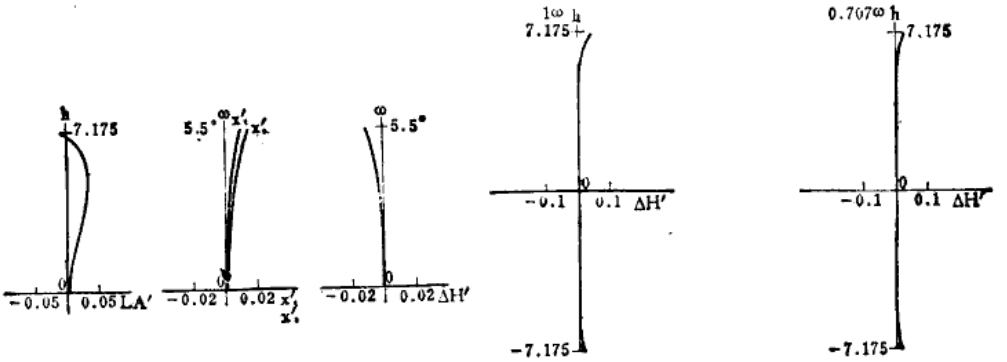


10-03-043-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0337	0.0114	-0.0016	0.0041	-0.0073	1.93	-0.65%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.007	-0.012	0.010	0.012	-0.002	-0.023	0.008
70	0.034	-0.004	0.004	0.006	-0.002	-0.013	0.007

E.F.L=20.088(±5.5°)

＊＊＊1=14.229; ＊＊＊2=14.760; ＊＊＊3*=7.313*=7.313+0

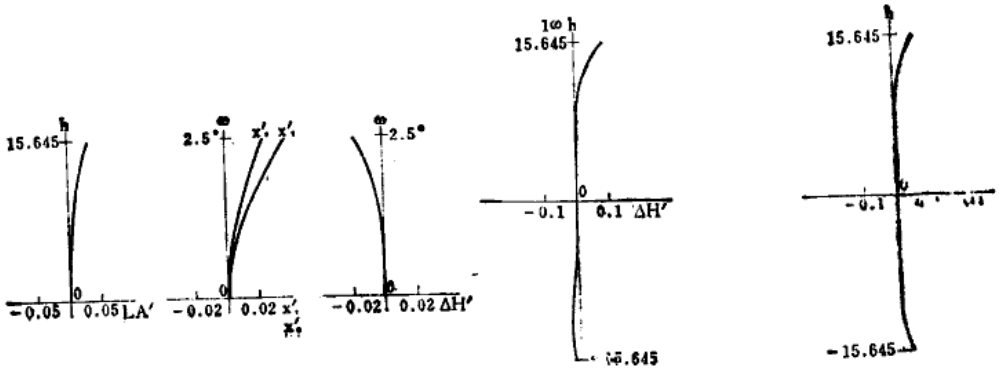


10-03-043-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0104	0.0034	0.0027	0.0040	-0.0132	1.91	-1.00%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.029	-0.019	0.039	0.024	0.015	-0.044	0.003
70	0.016	-0.006	0.021	0.012	0.009	-0.044	-0.002

E.F.L=43.800(±2.5°**)

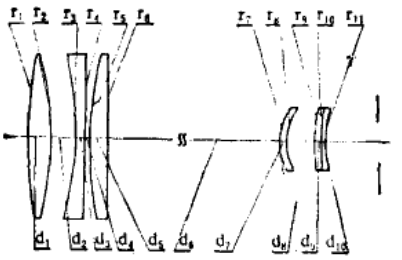
＊＊＊1=20.085; ＊＊＊2=2.029; ＊＊＊3*=14.187*=14.187+0



编号：10-04-001

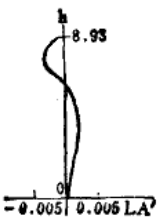
照 相 用 远 摄 物 镜

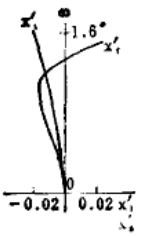
E.F.L＝100　B.F.L＝28.68　FNo.＝5.6　F.A.＝±1.6°　L'_{P11}＝5.600

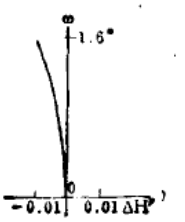


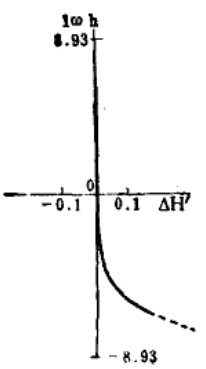
序号	r	d	n	v	序号	r	d	n	v
1	64.618	2.236	1.49700	81.6	7	5.808	0.642	1.58913	61.1
2	−30.938	2.341			8	5.439	2.851		
3	−27.163	0.835	1.61340	43.8	9	23.806	0.514	1.75520	27.5
4	143.973	0.271			10	51.239	0.385	1.71300	53.9
5	38.504	1.632	1.54771	62.9	11	14.023			
6	−134.854	35.793							

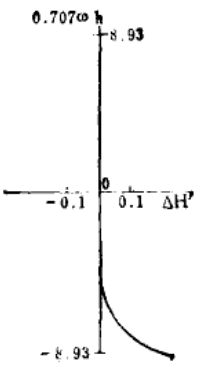
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00043	0.00007	−0.00009	−0.00032	−0.00205	2.80	−0.4%
h 或 ω%	LA′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K_{f1}	$K_{f0.7}$
100	−0.0011	−0.012	0.023	−0.021	0.044	−0.846	−0.083
70	−0.0007	−0.004	−0.019	−0.013	−0.006	−0.121	−0.011







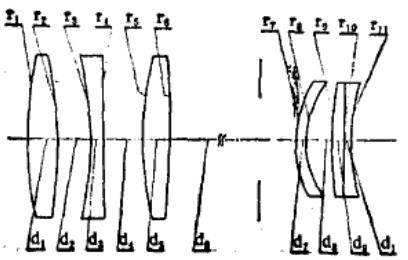




编号：10-04-002

远 摄 物 镜

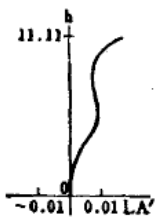
E.F L=100　　B.F.L=45.60　　FNo. =4.5　　F.A. =±2.48°

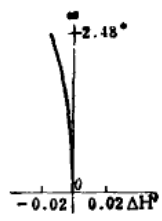


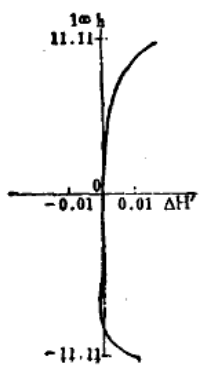
序号	r	d	n	v	序号	r	d	n	v
1	46.879	3.34	1.43387	95.1	7	10.570	1.00	1.58913	61.1
2	-38.778	3.26			8	9.473	2.50		
3	-32.349	1.10	1.74400	44.7	9	43.477	1.10	1.75520	27.5
4	-266.194	3.94			10	285.753	0.60	1.71300	53.9
5	35.571	2.49	1.48656	84.5	11	20.917			
6	-90.733	17.30*							

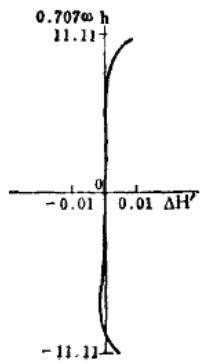
17.30* = 14.00 + 3.30

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00137	0.00005	0.00006	0.00031	-0.00383	4.30	-0.4%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.017	-0.017	0.0187	0.0145	0.0042	-0.015	-0.001
70	0.008	-0.006	0.0097	0.0073	0.0024	-0.00691	0.00001





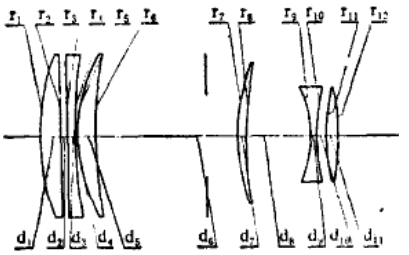




编号：10-04-003

小型远摄照相物镜

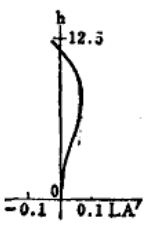
E.F.L＝100　　B.F.L＝32.51　　FNo.＝4　　F.A.＝±6.3°

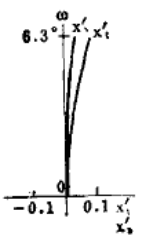


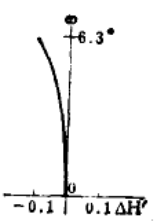
序号	r	d	n	v	序号	r	d	n	v
1	35.906	3.16	1.51633	64.1	7	33.415	1.46	1.51633	64.1
2	743.002	1.01			8	70.853	10.64		
3	－195.959	1.13	1.76182	26.6	9	－17.946	0.92	1.74400	44.7
4	115.403	0.05			10	29.599	1.51		
5	28.295	2.91	1.51633	64.1	11	35.016	1.82	1.64769	33.8
6	77.569	23.12*			12	－35.016			

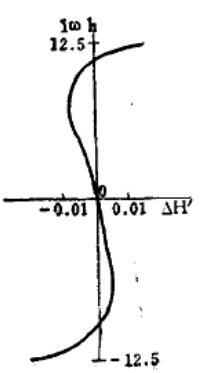
23.12* = 18.00 + 5.12

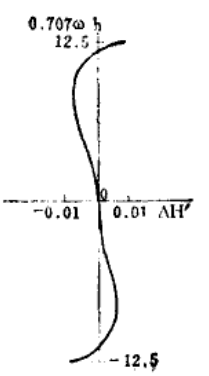
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00882	0.00086	0.00114	0.00070	－0.02735	11.04	－0.99%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.056	－0.109	0.069	0.037	0.032	0.0024	0.0034
70	0.066	－0.039	0.047	0.024	0.023	0.0009	0.0021







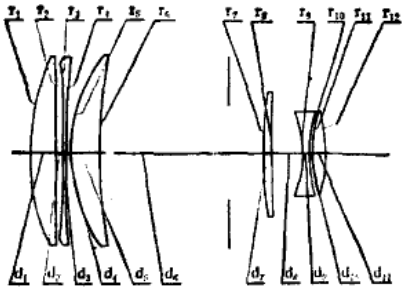




编号：10-04-004

小型远摄照相物镜

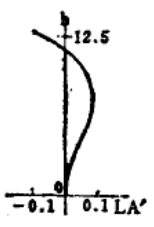
E.F.L=100　　B.F.L=32.12　　FNo.=4　　F.A.=±6.3°

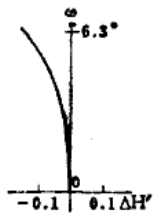


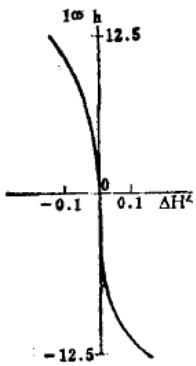
序号	r	d	n	v	序号	r	d	n	v
1	31.902	3.24	1.49700	81.6	7	68.929	0.98	1.48749	70.1
2	384.956	1.10			8	302.706	4.87		
3	-117.699	0.95	1.68893	31.1	9	-13.058	0.71	1.78590	44.2
4	136.349	0.05			10	20.813	0.10		
5	23.142	3.44	1.49700	81.6	11	19.639	1.82	1.64769	33.8
6	90.703	22.97*			12	-23.050			

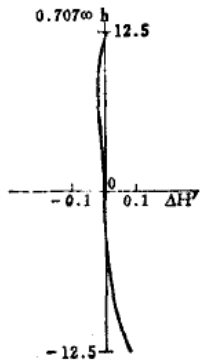
22.97* = 18.00 + 4.97

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.01238	-0.00373	0.00019	-0.00062	-0.04201	11.05	-1.47%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.126	-0.163	0.049	0.007	0.042	-0.007	0.011
70	0.080	-0.058	0.001	-0.002	0.003	-0.055	-0.011





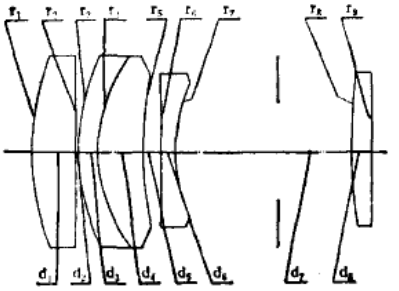




编号：10-04-005

远　摄　物　镜

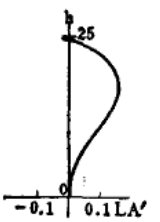
E.F.L＝200.07　　B.F.L＝112.54　　FNo.＝4　　F.A.＝±12°

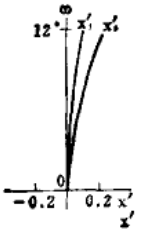


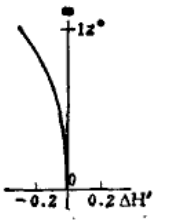
序号	r	d	n	v	序号	r	d	n	v
1	57.091	9.00	1.60311	60.7	6	387.380	3.00	1.57501	41.5
2	330.000	0.20			7	34.361	41.80*		
3	45.039	4.00	1.67270	32.1	8	146.228	4.34	1.74950	35.3
4	33.450	9.60	1.48749	70.1	9	552.040			
5	81.000	3.50							

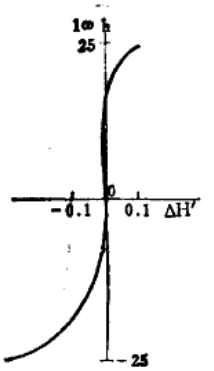
41.80* = 21.80 + 20.00

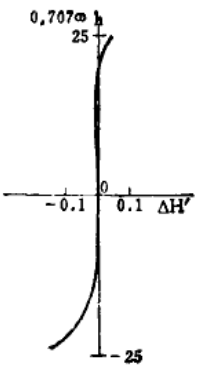
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0187	0.0014	−0.0031	0.0164	−0.0553	42.64	−0.8%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.030	−0.34	0.118	0.218	−0.100	0.122	0.038
70	0.155	−0.13	0.075	0.159	−0.084	0.056	0.018







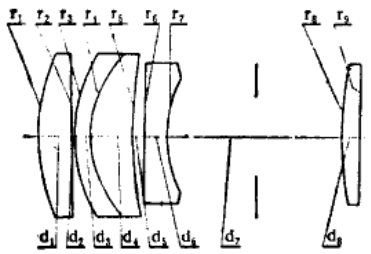




编号：10-04-006

远　摄　物　镜

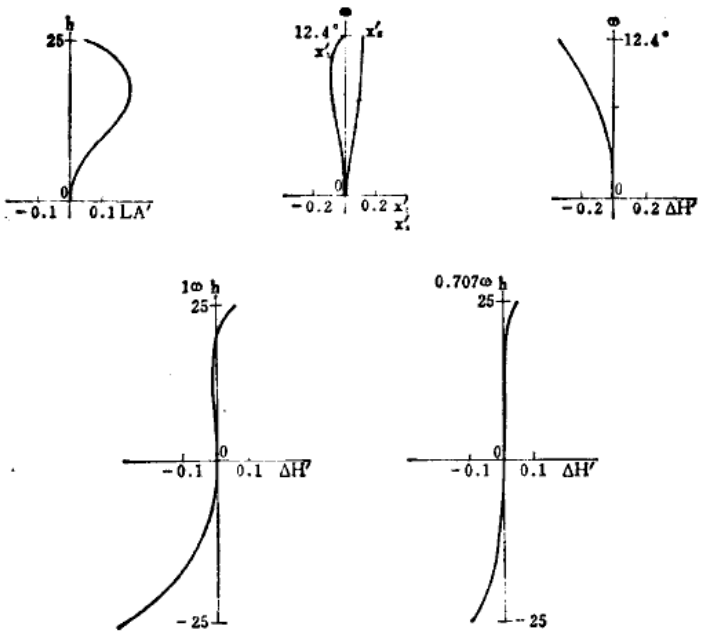
E.F.L＝199.69　　B.F.L＝101.51　　FNo.＝4　　F.A.＝±12.4°



序号	r	d	n	ν	序号	r	d	n	ν
1	53.134	8.50	1.58913	61.0	6	215.992	4.81	1.72000	42.0
2	216.482	0.20			7	31.982	42.70*		
3	42.882	4.00	1.80610	40.9	8	103.244	4.34	1.64769	33.8
4	27.695	10.00	1.61800	63.4	9	231.664			
5	101.862	3.00							

42.70* = 21.70 + 21.00

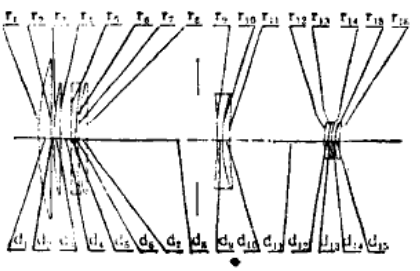
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0236	0.0031	−0.0086	0.0168	−0.0753	43.81	−0.8%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.044	−0.37	−0.016	0.114	−0.130	0.131	0.061
70	0.206	−0.15	−0.103	0.092	−0.195	0.036	0.024



编号：10-04-007

全长短的远摄物镜

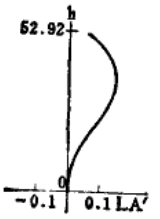
E.F.L=1174.8　　B.F.L=260.14　　FNo.=11.1　　F.A.=±1.1°

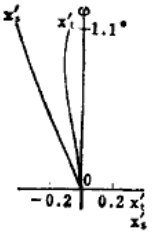


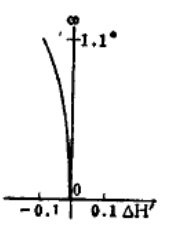
序号	r	d	n	v	序号	r	d	n	v
1	260.000	9.80	1.49700	81.6	9	−696.315	4.00	1.67270	32.1
2	−850.409	0.30			10	156.500	7.00	1.80518	25.4
3	292.600	7.82	1.49700	81.6	11	784.000	113.16		
4	−4058.633	8.58			12	199.745	1.50	1.83481	42.7
5	−1054.425	4.40	1.76200	40.1	13	33.299	3.39	1.74077	27.8
6	306.600	0.30			14	75.210	0.70		
7	245.000	8.80	1.49700	81.6	15	47.859	3.36	1.48749	70.1
8	1907.000	128.05*			16	56.177			

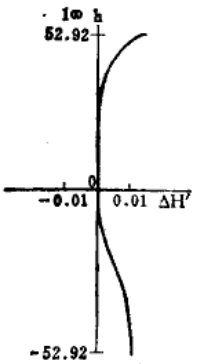
128.05* = 108.00 + 20.05

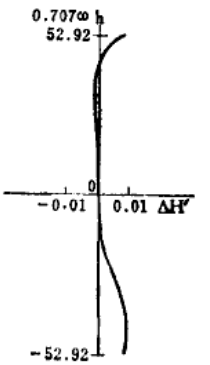
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0021	−0.0002	0.0006	−0.0018	−0.0089	22.32	−0.4%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.060	−0.099	−0.122	−0.449	0.327	−0.014	−0.005
70	0.152	−0.035	−0.131	−0.292	0.161	−0.009	−0.003







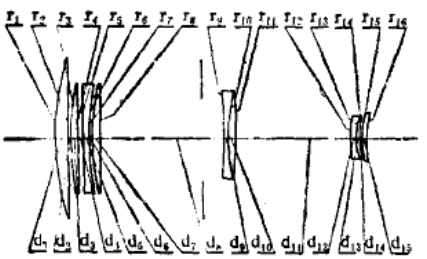




编号：10-04-008

全长短的远摄物镜

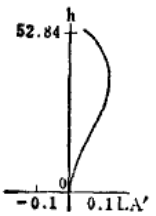
E.F.L＝1173.07　　B.F.L＝313.93　　FNo.＝11.1　　F.A.＝±1.1°

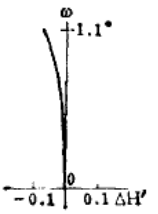


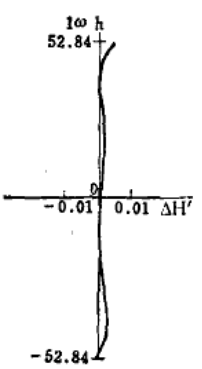
序号	r	d	n	ν	序号	r	d	n	ν
1	260.000	9.80	1.49700	81.3	9	－517.000	3.61	1.68893	31.1
2	－850.409	0.30			10	197.685	4.84	1.80518	25.4
3	292.600	7.82	1.49700	81.3	11	－21823.100	114.58		
4	－1058.633	3.32			12	294.907	2.50	1.83481	42.7
5	－1287.408	1.50	1.80610	40.9	13	44.568	3.15	1.80518	25.4
6	307.260	0.30			14	81.685	0.95		
7	245.000	8.80	1.49700	81.3	15	78.416	2.35	1.48749	70.1
8	1907.000	120.20*			16	104.800			

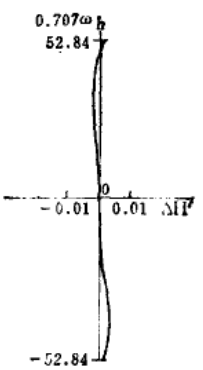
120.20* = 100.00 + 20.20

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00201	－0.00008	0.00037	－0.00138	－0.00603	22.29	－0.3%
h 或 ω %	LA′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.046	－0.067	－0.097	－0.270	0.173	－0.0012	－0.0015
70	0.139	－0.023	－0.051	－0.140	0.089	0	－0.0007





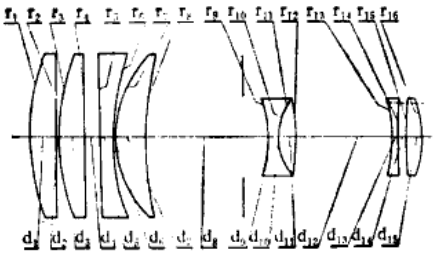




编号：10-04-009

望　远　物　镜

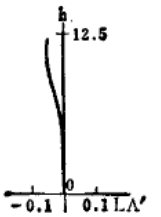
E.F.L＝100.07　　B.F.L＝13.27　　FNo.＝4　　F.A.＝±4.1°

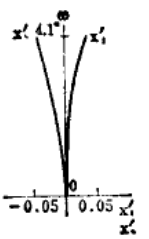


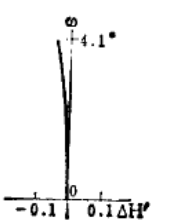
序号	r	d	n	ν	序号	r	d	n	ν
1	28.45	3.79	1.49700	81.3	9	−13.97	1.11	1.79952	42.2
2	−373.80	0.03			10	7.12	0.00		
3	27.31	3.08	1.49700	81.3	11	7.12	1.81	1.59270	35.3
4	162.76	1.88			12	−29.56	11.71		
5	−335.17	1.64	1.80610	40.9	13	−15.42	0.76	1.88300	40.8
6	27.03	0.03			14	−178.50	0.64		
7	14.07	3.79	1.49700	81.3	15	59.84	1.87	1.69895	30.1
8	46.93	14.96*			16	−16.86			

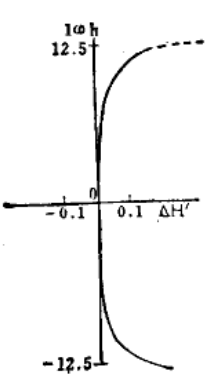
14.96* = 12.00 + 2.96

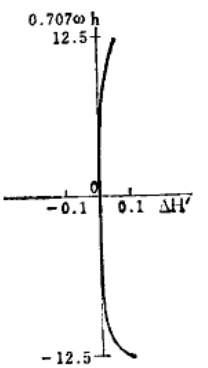
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	H_I	QP(1ω)
	0.0008	0.0015	0.0015	−0.0036	−0.0182	7.21	−0.7%
h 或 ω %	LA′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T_1}	$K'_{T_{0.7}}$
100	−0.064	−0.051	0.031	−0.047	0.078	−11.644	−0.017
70	−0.036	−0.021	0.013	−0.029	0.042	−0.069	−0.003









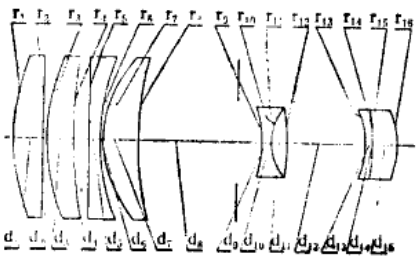


注：远近比 0.6。

编号: 10-04-010

望 远 物 镜

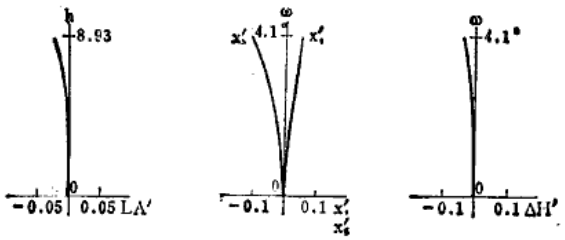
E.F.L＝100.31　　B.F.L＝13.65　　FNo. ＝5.6　　F.A. ＝ ±4.1°

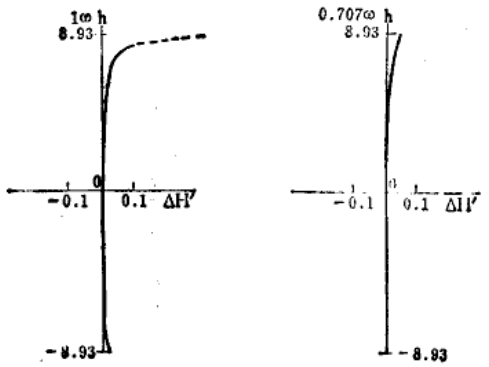


序号	r	d	n	v	序号	r	d	n	v
1	27.638	3.94	1.49700	81.3	9	−14.680	1.20	1.79952	42.2
2	−489.625	0.03			10	5.635	0.00		
3	23.812	3.18	1.49700	81.3	11	5.635	2.30	1.59270	35.3
4	98.143	1.69			12	−25.015	9.74		
5	−1647.706	1.44	1.80610	40.9	13	−9.497	0.69	1.88300	40.8
6	24.546	0.03			14	−20.143	0.00		
7	14.079	4.10	1.49700	81.3	15	−20.143	2.80	1.69895	30.1
8	43.692	15.25*			16	−9.089			

15.25* = 12.25 + 3.00

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00037	0.00031	0.00156	−0.00359	−0.00642	7.23	− 0.5%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.026	−0.038	0.044	−0.126	0.170	−3.653	−0.006
70	−0.003	−0.013	0.031	−0.063	0.094	−0.015	− 0.001



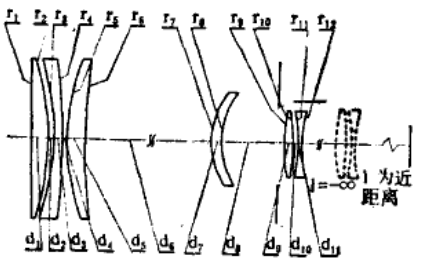


注：甲远比 0.6。

编号: 10-04-011

照 相 机 远 摄 物 镜

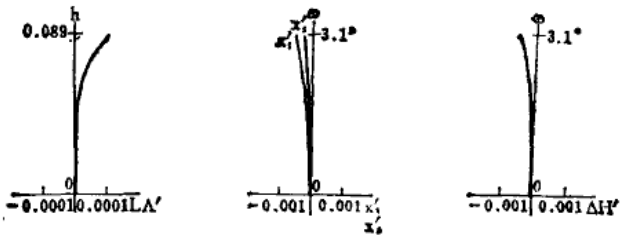
E.F.L=0.999　　B.F.L=0.367　　FNo.=5.6　　F.A.=±3.1°

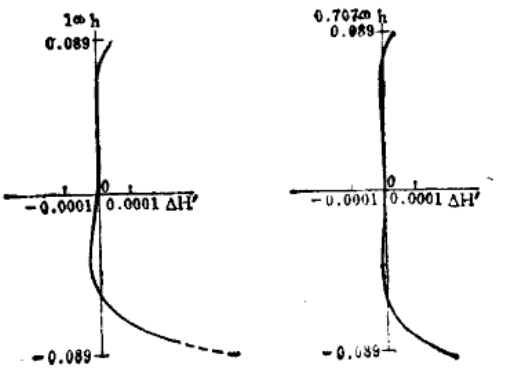


序号	r	d	n	v	序号	r	d	n	v
1	1.1404	0.0229	1.48749	70.1	7	0.0890	0.0113	1.58913	61.0
2	−0.3323	0.0087			8	0.0809	0.0743*		
3	−0.3301	0.0113	1.71736	29.5	9	0.2606	0.0121	1.59270	35.3
4	−0.8833	0.0047			10	−0.5044	0.0067		
5	0.2707	0.0220	1.51633	64.1	11	−0.5342	0.0057	1.77250	49.6
6	0.7880	0.1977			12	0.1801			

0.0743* = 0.0701 + 0.0042

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	-6×10^{-7}	8.1×10^{-6}	-1.8×10^{-6}	-4.1×10^{-6}	-8.14×10^{-5}	0.054	−0.85%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.000119	−0.00045	−0.00066	−0.00038	−0.00028	−0.00033	−0.00002
70	0.000005	−0.00016	−0.00032	−0.00019	−0.00013	−0.00012	0

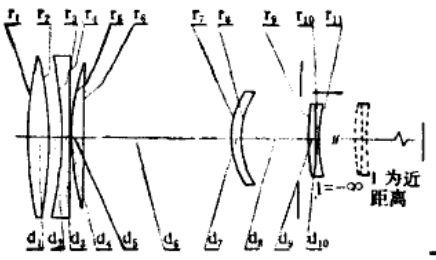




编号：10-04-012

照 相 机 远 摄 物 镜

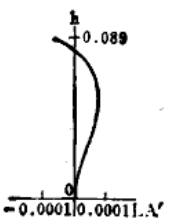
E.F L＝1　　B.F.L＝0.432　　FNo.＝5.6　　F.A.＝±3.1°

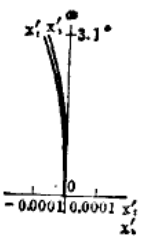


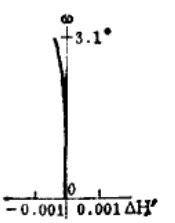
序号	r	d	n	ν	序号	r	d	n	ν
1	0.5494	0.0248	1.51633	64.1	7	0.0937	0.0115	1.51633	64.1
2	−0.4444	0.0139			8	0.0850	0.0601*		
3	−0.4265	0.0102	1.71736	29.5	9	0.3966	0.0077	1.69895	30.1
4	−28.0358	0.0013			10	−1.7438	0.0048	1.71300	53.8
5	0.3172	0.0184	1.51112	60.5	11	0.2012			
6	2.4359	0.1808							

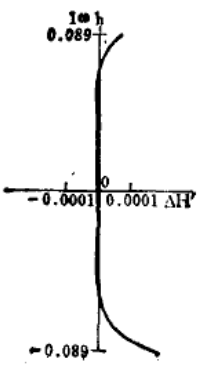
0.0601* = 0.0499 + 0.0102

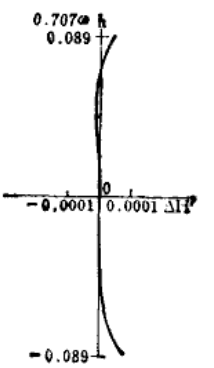
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	6.4×10^{-6}	5.5×10^{-6}	1×10^{-7}	-1.3×10^{-6}	-6.46×10^{-5}	0.054	−0.68%
h或ω%	LA′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	−0.00007	−0.00036	−0.00008	−0.00007	−0.00001	−0.000125	−0.000001
70	0.00008	−0.00012	−0.00003	−0.00003	0	−0.000057	0.000006







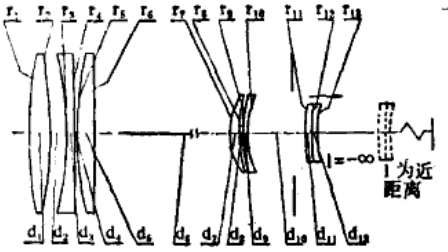




编号: 10-04-013

照 相 机 远 摄 物 镜

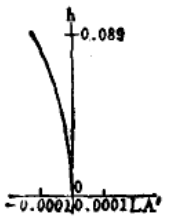
E.F.L=1　　B.F.L=0.354　　FNo.=5.6　　F.A.=±3.1°

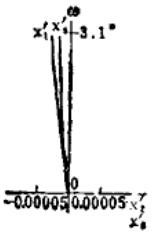


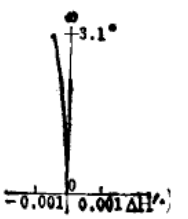
序号	r	d	n	v	序号	r	d	n	v
1	0.5527	0.0259	1.51633	64.1	8	0.2666	0.0013		
2	-0.4647	0.0217			9	0.1773	0.0058	1.72500	49.8
3	-0.4276	0.0089	1.71736	29.5	10	0.1095	0.0700*		
4	-6.2854	0.0028			11	0.2679	0.0077	1.69895	30.1
5	0.4049	0.0191	1.53996	59.5	12	1.5002	0.0051	1.71300	53.8
6	2.6055	0.2335			13	0.1565			
7	0.1261	0.0113	1.51118	51.0					

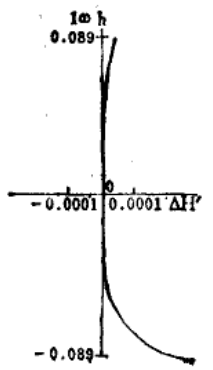
0.0700* = 0.0582 + 0.0118

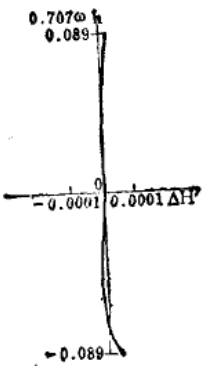
	ΣS_1	ΣS_2	ΣS_3	ΣR_4	ΣS_5	HI	QP(1ω)
	-1.4×10^{-6}	9×10^{-7}	-6×10^{-8}	-3×10^{-7}	-9.33×10^{-5}	0.054	-1.03%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.00014	-0.00056	-0.00003	-0.00002	-0.00001	-0.00015	-0.00002
70	-0.00006	-0.00019	-0.00002	-0.00001	-0.00001	-0.00002	0







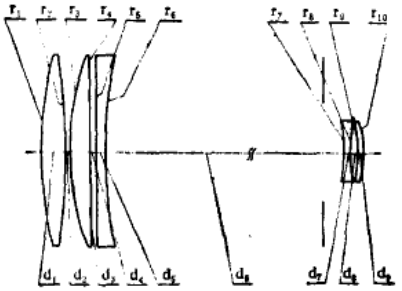




编号：10-04-014

联动调焦照相机远摄物镜

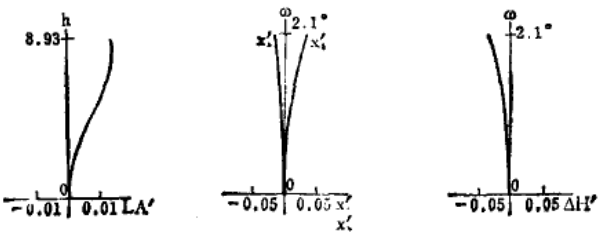
E.F.L＝99.99　　B.F L＝28.53　　FNo.＝5.6　　F.A.＝±2.1°

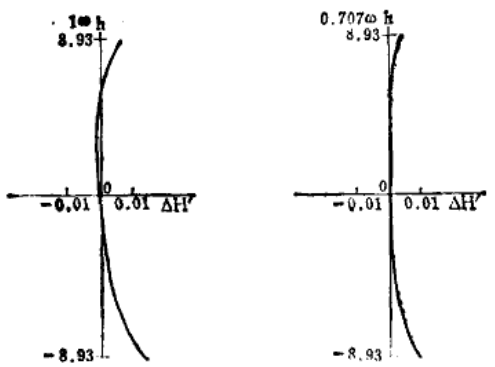


序号	r	d	n	v	序号	r	d	n	v
1	44.892	2.120	1.51633	64.1	6	57.329	＊＊＊1*		
2	－80.377	0.051			7	－19.341	0.511	1.73400	51.5
3	29.985	1.722	1.49700	81.3	8	22.533	0.681		
4	∞	0.596			9	－21.159	0.555	1.69895	30.1
5	－169.181	0.826	1.68893	31.1	10	－10.047			

＊＊＊1*＝32.120*＝30.00＋2.120

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00049	0.00008	0.00029	－0.00063	－0.00608	3.7	－0.9%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0\text{-}7}'$
100	0.013	－0.034	0.029	－0.020	0.049	－0.011	－0.002
70	0.011	－0.012	0.011	－0.010	0.021	－0.006	－0.001





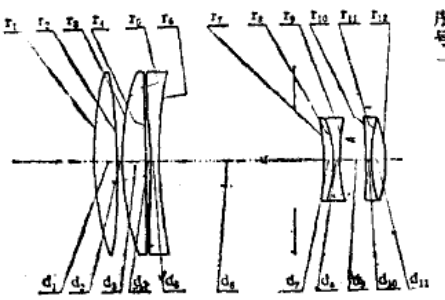
注：1.当d_8＝32.120时，E.F.L＝99.99；　2.表中的像差值是按 l ＝－∞，d_0＝32.120计算的；

3.＊＊＊1*＝32.120*～36.213*。

编号：10-04-015

联动调焦照相机远摄物镜

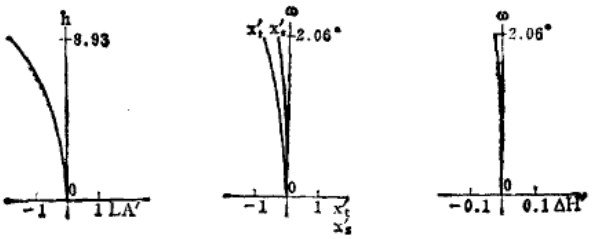
E.F.L＝115.93　　B.F.L＝42.39　　FNo.＝6.5　　F.A.＝±2.06°

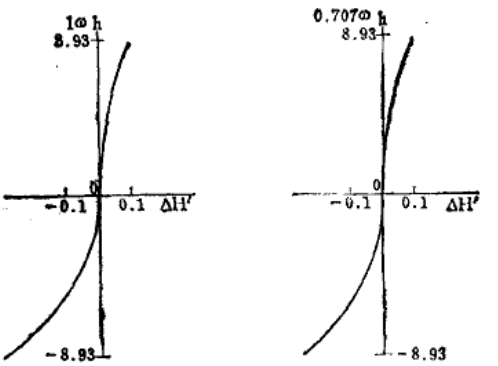


序号	r	d	n	ν	序号	r	d	n	ν
1	85.681	2.301	1.49700	81.3	7	−28.835	0.834	1.80518	25.4
2	−59.235	0.050			8	−11.367	0.500	1.73400	51.5
3	26.432	2.301	1.49700	81.3	9	21.052	＊＊＊2		
4	−130.749	0.050			10	−53.785	0.500	1.76200	40.2
5	−83.386	0.834	1.80610	40.9	11	22.480	1.067	1.57135	52.9
6	49.581	＊＊＊1*			12	−12.528			

＊＊＊1*＝25.706*＝23.000＋2.706

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	−0.0178	0.0049	−0.0031	-1.1×10^{-7}	−0.0031	4.17	−0.5%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K'_{T1}	$K'_{T0.7}$
100	−1.94	−0.020	−0.827	−0.272	−0.555	0.107	0.049
70	−0.85	−0.007	−0.408	−0.135	−0.273	0.074	0.034



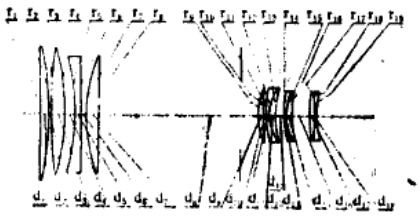


注：1.当$d_6=25.706$，$d_9=2.286$时，E.F.L＝115.93；2.表中的像差值是按 l ＝ −∞，$d_6=25.706$，$d_9=2.286$ 计算的；　3.＊＊＊1*＝25.706*～28.965*；＊＊＊2＝2.286～0.619。

编号：10-04-016

高性能远摄物镜

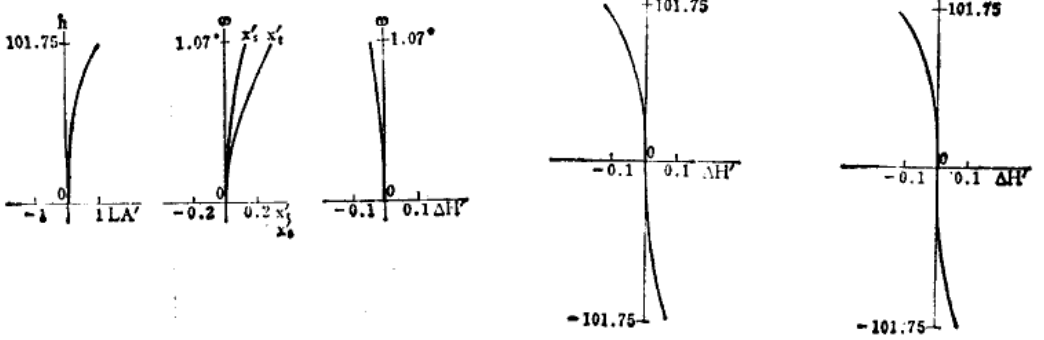
E.F.L＝1063.6　　B.F L＝284.1　　FNo ＝5.22　　F A.＝±1.07°



序号	r	d	n	v	序号	r	d	n	v
1	∞	15.00	1.48749	70.1	11	337.014	4.60	1.80000	46.6
2	−590.820	1.30			12	78.417	9.77	1.50137	56.4
3	955.420	25.00	1.49700	81.6	13	174.397	14.82		
4	−472.610	17.09			14	228.580	3.80	1.61340	43.8
5	−410.140	11.00	1.78590	44.2	15	82.253	9.00	1.59270	35.3
6	2337.700	9.50			16	255.557	31.77		
7	299.670	22.50	1.49700	81.6	17	323.832	4.84	1.74000	28.3
8	2040.020	289.47*			18	−1671.060	3.50	1.71300	53.8
9	112.814	11.21	1.50137	56.4	19	136.900			
10	624.320	3.99							

289.47* = 259.47 + 30.00

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0154	0.0019	0.0018	0.0003	−0.0073	19.14	−0.2%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	Kf_1	$Kf_{0.7}$
100	0.917	−0.039	0.310	0.111	0.199	0.040	0.019
70	0.420	−0.014	0.152	0.052	0.100	0.030	0.014

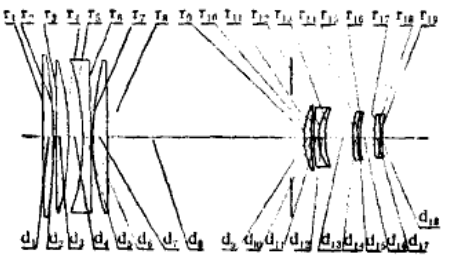


注：㊣远比0.69。

编号：10-04-017

高性能远摄物镜

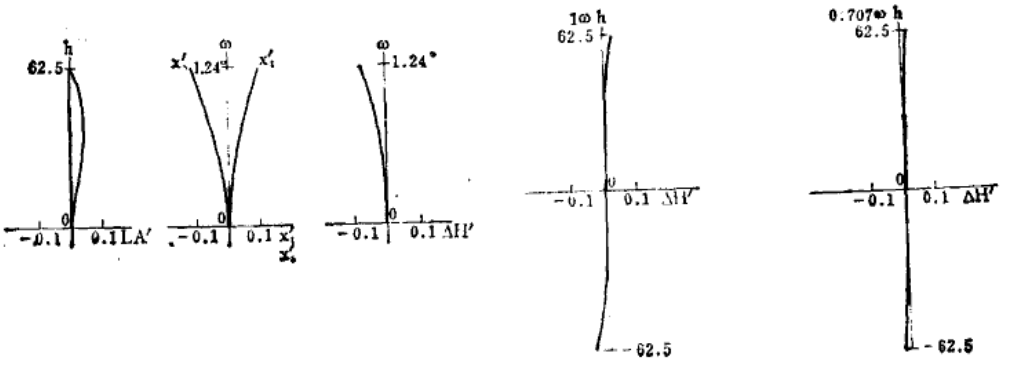
E.F.L＝1000　　B.F.L＝259.1　　FNo.＝8　　F.A.＝±1.24°



序号	r	d	n	v	序号	r	d	n	v
1	∞	10.17	1.51633	64.1	11	190.853	3.39	1.77250	49.6
2	－539.608	0.85			12	18.203	6.35	1.51454	54.7
3	739.446	13.55	1.49700	81.6	13	81.976	26.74		
4	－296.322	17.17			14	103.117	4.02	1.76182	26.5
5	－244.099	7.20	1.78590	44.2	15	144.590	2.61	1.73400	51.5
6	1835.354	0.80			16	88.487	16.89		
7	230.501	13.55	1.49700	81.6	17	283.685	3.39	1.76182	26.5
8	－865.932	195.83*			18	－1192.869	2.28	1.73400	51.5
9	66.444	6.27	1.51118	51.0	19	115.612			
10	250.644	1.57							

195.83* = 180.00 + 15.83

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	0.0020	－0.0011	0.0008	－0.0017	－0.0105	22.00	－0.39%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T_1}'	$T_{T_{0.7}}'$
100	0.0003	－0.086	0.094	－0.120	0.214	0.0058	－0.0030
70	0.0438	－0.030	0.048	－0.061	0.109	0.0046	－0.0023



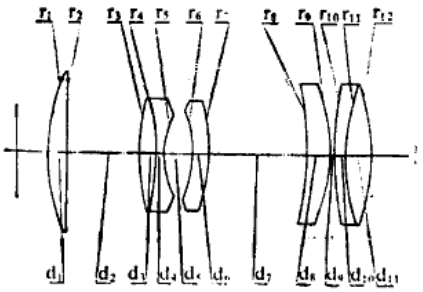
注：像远比 0.59。

编号: 10-05-001

低倍显微镜物镜

E.F.L=74.718　　B.F L=145.7　　N.A.=0.08　　L_p=0

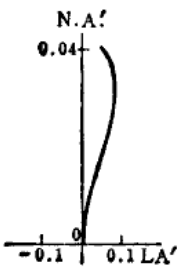
η=4.5　　β=－2　　W.D.=4

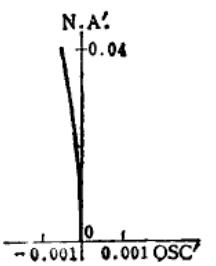


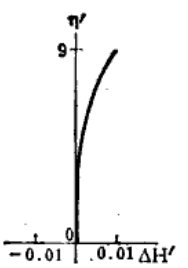
序号	r	d	n	v	序号	r	d	n	v
1	17.000	2.5	1.65128	38.30	7	－20.800	14.5		
2	－95.500	10.0			8	－53.100	3.5	1.58894	61.04
3	18.100	2.5	1.76182	26.50	9	－16.559	0.3		
4	－21.200	0.8	1.51823	59.00	10	70.100	1.4	1.71736	29.50
5	4.620	4.0	.		11	21.000	3.3	1.50032	81.90
6	－7.956	2.0	1.74950	35.00	12	－26.584			

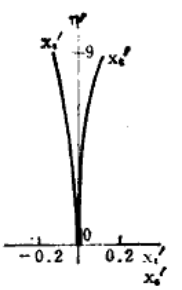
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00339	－0.00026	0.00077	－0.00281	0.00030	4.5	0.22%

N.A.′或η′%	LA′	OSC′	ΔH′	x_i'	x_s'	$x_i'-x_s'$	$K\tau_1$	$K\tau_{0.7}$
100	0.0623	－0.0005	0.0098	0.1073	－0.1370	0.2443	－0.0071	－0.0013
70	0.0868	－0.0002	0.0021	0.0155	－0.0744	0.0899	－0.0059	－0.0017









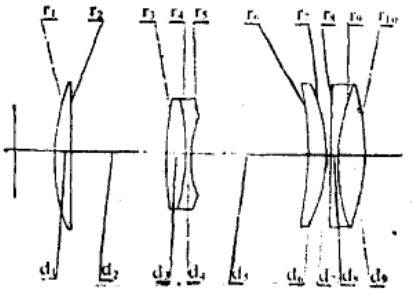
注：当 l＝－W D 时，β＝－1.999。

编号：10-05-002

低倍显微镜物镜

E.F.L＝67.895　　B.F.L＝146.357　　N.A.＝0.08　　L_p＝0

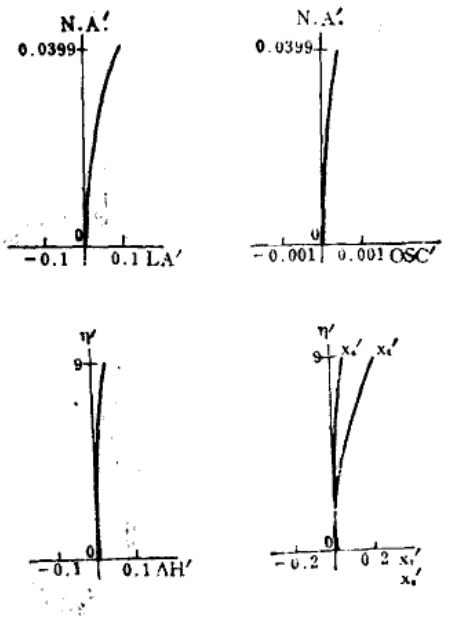
η＝4.5　β＝－2　W.D＝5.5



序号	r	d	n	v	序号	r	d	n	v
1	14.800	2.2	1.58913	61.2	6	－54.800	2.8	1.51823	59.0
2	－600.000	13.1			7	－12.700	0.1		
3	45.000	3.0	1.74077	27.7	8	360.000	1.0	1.74950	35.0
4	－16.000	0.5	1.71300	53.9	9	18.850	3.1	1.50032	81.9
5	5.487	16.7			10	－20.380			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00230	0.00018	0.00109	－0.00090	0.00607	4.5	0.95%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\acute{r}_1$	$K\acute{r}_{0.7}$
100	0.0964	0.0004	0.0431	0.2438	0.0282	0.2156	－0.0045	－0.0030
70	0.0579	0.0001	0.0143	0.1070	0.0107	0.0963	0.0013	－0.0003

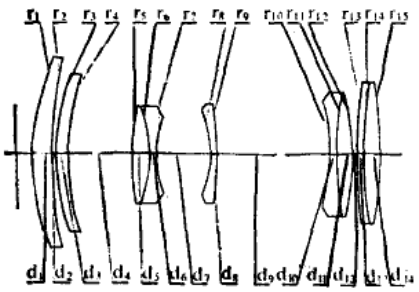


注：当 I＝－W D 时，β＝－1.999。

编号：10-05-003

低倍显微镜物镜

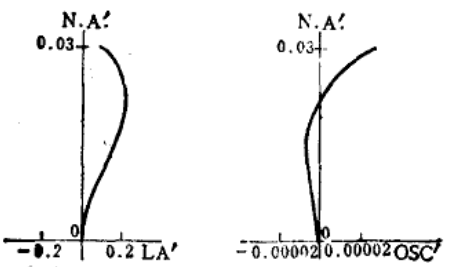
E.F.L=108.675　B.F.L=145.66　N.A.=0.03　L_p=0　η=9　β=−1　W.D=2

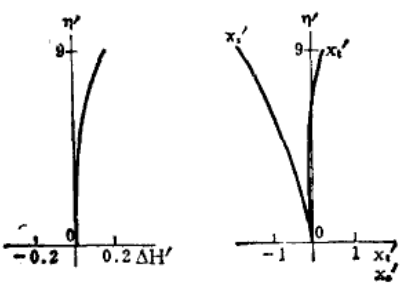


序号	r	d	n	v	序号	r	d	n	v
1	16.300	2.9	1.71300	53.90	9	−27.000	15.2		
2	74.000	0.2			10	−110.000	0.8	1.74950	35.00
3	17.000	1.7	1.62004	36.30	11	27.840	2.1	1.58894	61.04
4	24.000	8.8			12	−17.335	0.2		
5	27.000	2.4	1.76182	26.50	13	51.000	0.8	1.67163	38.80
6	−8.000	0.8	1.74443	49.40	14	25.300	2.2	1.50032	81.90
7	5.720	7.8			15	−24.419			
8	−5.030	1.0	1.74443	49.40					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00140	−0.00003	0.00135	−0.00482	0.00312	9	1.69%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.1172	0.000028	0.1524	0.3630	−1.8895	2.2525	0.0058	0.0019
70	0.2343	−0.000007	0.0328	−0.0747	−0.9674	0.8927	0.0023	0.0005



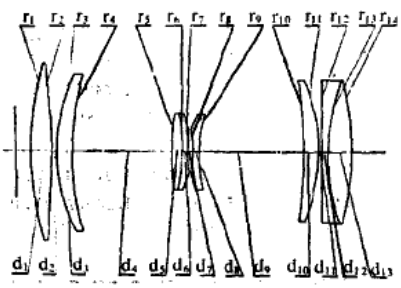


注：当 l = −W.D. 时，β = −0.9999.

编号 10-05-004

低倍显微镜物镜

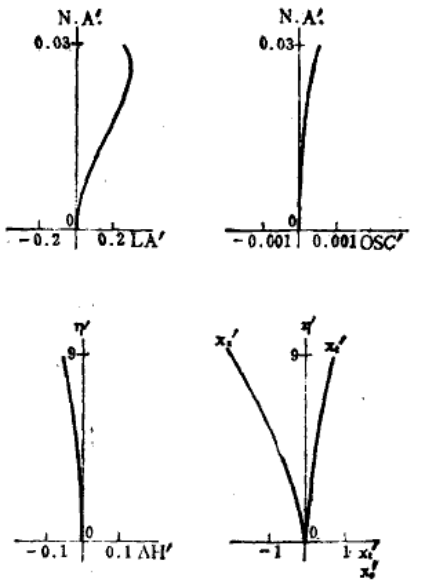
E.F.L=137.4　B.F.L=145.75　N.A.=0.03　L_p=0　η=.9　β=−1　W.D.=2.1



序号	r	d	n	v	序号	r	d	n	v
1	26.30	3.2	1.62280	56.9	8	−9.00	0.8	1.71300	53.9
2	−320.00	0.1			9	4.60	16.5		
3	14.20	2.2	1.62041	60.3	10	−51.00	2.0	1.62374	47.0
4	21.00	15.0			11	−13.32	0.1		
5	21.00	1.5	1.75520	27.5	12	105.00	0.6	1.74000	28.2
6	−9.00	0.7	1.71300	53.9	13	17.00	3.2	1.50032	81.9
7	9.00	0.5			14	−20.28			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00121	0.00016	0.00305	−0.00728	−0.00301	9	−0.77%

N.A.或η′%	LA′	OSC′	ΔH′	x_1'	x_4'	$x_1'-x_4'$	K_{T1}'	$K_{T0.7}'$
100	0.2531	0.00053	−0.069	0.689	−2.520	3.209	−0.0033	−0.0040
70	0.2395	0.00020	−0.020	0.450	−1.213	1.663	0.0061	0.0011

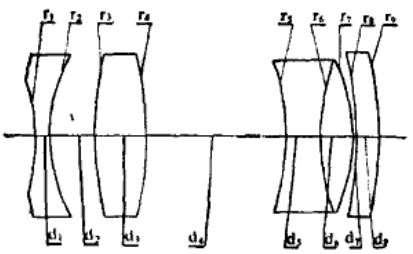


注：当 l = −W.D.时，β = −0.9999。

编号：10-05-005

长工作距离低倍显微镜物镜

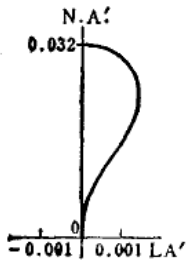
E.F.L=0.9998 B.F.L=5.5367 N.A=0.13 L_p=0 η=0.1 β=−4 W.D.=0.5114**

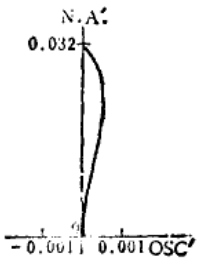


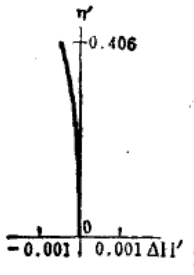
序号	r	d	n	v	序号	r	d	n	v
1	−0.6871	0.0351	1.48749	70.15	6	0.6727	0.0817	1.49250	81.90
2	0.3159	0.1183			7	−0.4608	0.0035		
3	0.8103	0.1291	1.83400	37.19	8	−10.7743	0.0526	1.51728	69.56
4	−1.1823	0.3404			9	−0.9174			
5	−0.7925	0.0869	1.62588	35.70					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000174	0.000032	−0.000001	−0.000013	−0.000116	0.09999	−0.5%

N.A.′或η′%	LA′	OSC′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.00012	0.00007	−0.00050	−0.00088	−0.00052	−0.00036	−0.000529	−0.000060
70	0.00143	0.00036	−0.00017	−0.00035	−0.00024	−0.00011	−0.000274	−0.000003





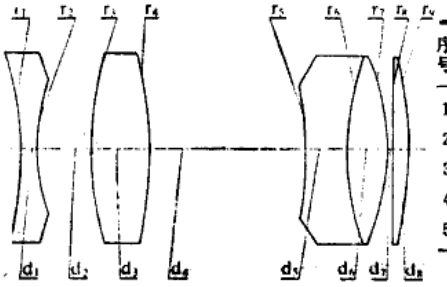


注：当 l = −W.D.时，β = −4.06。

编号：10-05-006

长工作距离低倍显微镜物镜

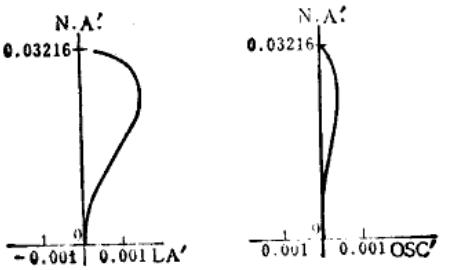
E.F.L＝1　B.F.L＝5.53　N.A.＝0.13　L_p＝0　η＝0.1**　β＝－4　W.D.＝0.5115

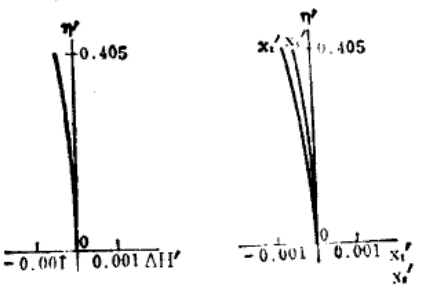


序号	r	d	n	v	序号	r	d	n	v
1	－0.7588	0.0351	1.48749	70.15	6	0.5966	0.0829	1.49250	81.90
2	0.3113	0.1183			7	－0.5126	0.0035		
3	0.7592	0.1292	1.83481	42.82	8	－5.2782	0.0361	1.50378	66.81
4	－1.4720	0.3387			9	－0.8206			
5	－0.9547	0.0958	1.60342	38.01					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000182	0.000030	－0.000002	－0.000010	－0.000126	0.0999	－0.5%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.00030	0.00004	－0.00050	－0.00078	－0.00043	－0.00035	－0.000518	－0.000063
70	0.00152	0.00033	－0.00017	－0.00031	－0.00019	－0.00012	－0.000269	－0.000006



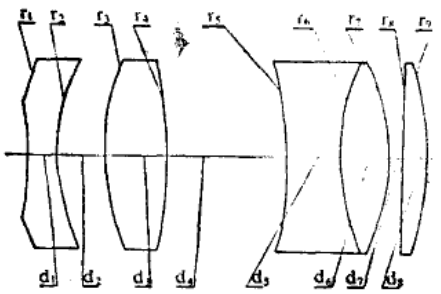


注：当1＝－W.D.时，β＝－4.05。

编号：10-05-007

长工作距离低倍显微镜物镜

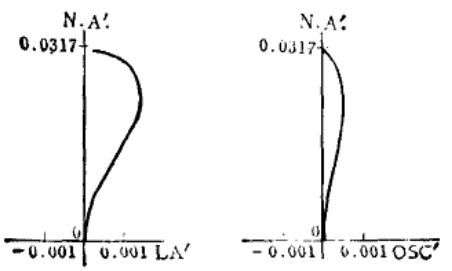
E.F.L＝1　B.F.L＝5.5428　N.A.＝0.13　L_p＝0 η＝0.1** β＝－4　W.D.＝0.5162

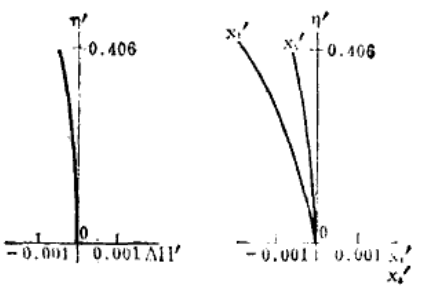


序号	r	d	n	v	序号	r	d	n	v
1	－1.1505	0.0625	1.51874	64.48	6	0.5857	0.1004	1.49250	81.90
2	0.2795	0.1045			7	－0.4545	0.0276		
3	0.6033	0.1342	1.7:000	31.70	8	－2.2735	0.0514	1.49250	81.90
4	－1.3191	0.2508			9	－0.7324			
5	－1.0020	0.1141	1.64769	33.80					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000182	0.000043	－0.000022	0.000006	－0.000119	0.0998	－0.46%

N.A′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_T'	$K_{T0.7}'$
100	0.00012	0.00011	－0.00046	－0.00221	－0.00055	－0.00166	－0.000699	－0.000081
70	0.00139	0.00048	－0.00016	－0.00100	－0.00025	－0.00075	－0.000354	－0.000005



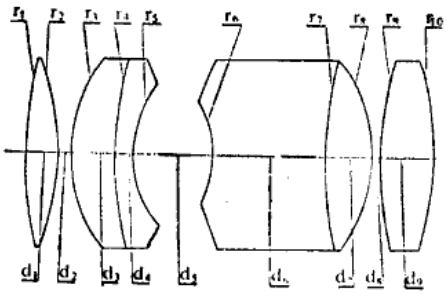


注：当 l＝－W.D 时，β＝－4.06。

编号：10-05-008

长工作距离大孔径低倍显微镜物镜

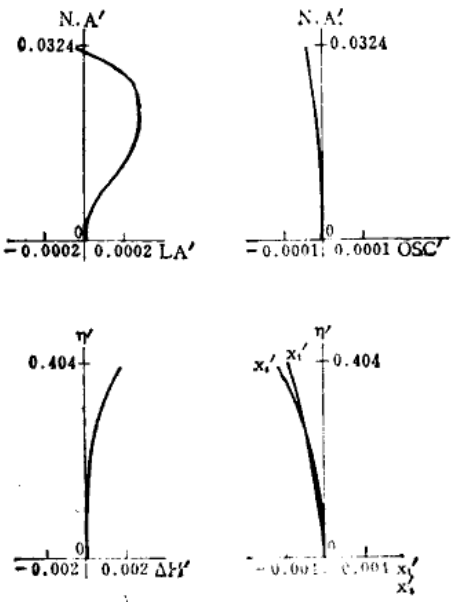
E.F.L＝1　B.F.L＝3.6372　N.A.＝0.13　L_p＝0　η＝0.1　β＝－4　W.D.＝0.8638**



序号	r	d	n	v	序号	r	d	n	v
1	1.0662	0.0774	1.77250	49.60	6	－0.1352	0.2434	1.59270	35.29
2	－0.5293	0.0285			7	0.8439	0.0941	1.49700	81.34
3	0.2136	0.0892	1.75500	52.33	8	－0.2823	0.0214		
4	0.8616	0.0334	1.73520	41.08	9	8.8577	0.1143	1.62041	60.27
5	0.1374	0.1628			10	－0.6290			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000038	－0.000002	－0.000029	－0.000140	0.000342	0.0999	1.7%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.00007	－0.00004	0.00172	－0.00375	－0.00481	－0.00106	0.000045	0.000021
70	－0.00029	－0.00002	0.00052	－0.00281	－0.00247	－0.00034	－0.0000006	－0.0000035

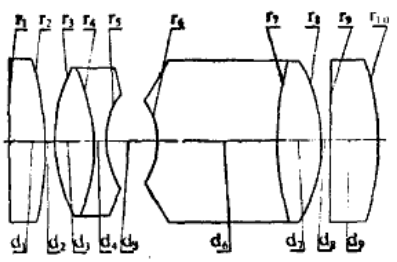


注：当 l＝－W.D.时，β＝－4.04。

编号：10-05-009

长工作距离大孔径低倍显微镜物镜

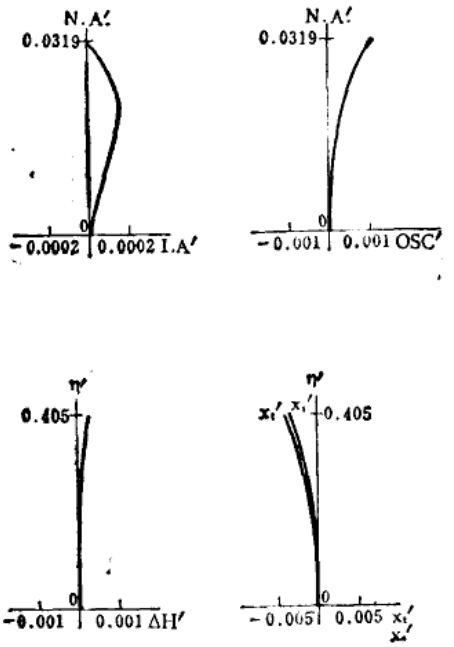
E.F.L=0.9999 B.F.L=3.9846 N.A.=0.13 L_p=0 η=0.1 β=−4 W.D.=0.419**



序号	r	d	n	v	序号	r	d	n	v
1	3.3947	0.0894	1.80610	40.95	6	−0.1420	0.2922	1.59270	35.29
2	−0.6104	0.0249			7	0.7763	0.1122	1.49700	81.34
3	0.2267	0.0991	1.77250	49.60	8	−0.3476	0.0213		
4	−0.3508	0.0275	1.72000	42.08	9	3.2004	0.1253	1.62041	60.27
5	0.1658	0.1362			10	−0.7606			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000020	0.000016	0.000011	−0.000130	0.000049	0.0999	0.24%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K'_{T1}	$K'_{T0.7}$
100	−0.00003	0.00104	0.00024	−0.00456	−0.00436	−0.00020	0.000201	0.000009
70	−0.00015	0.00041	0.00007	−0.00199	−0.00199	0	0.000128	0.000034



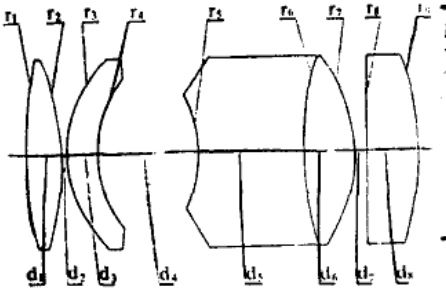
注：当 l = −W.D.时，β = −4.05。

编号：10-05-010

长工作距离大孔径低倍显微镜物镜

E.F.L=0.999　B.F.L=3.9358　N.A.=0.13　L_p=0　η=0.1**　β=－4

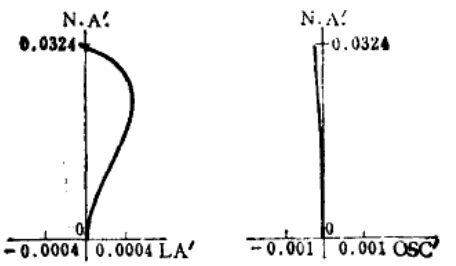
W.D.=0.3781

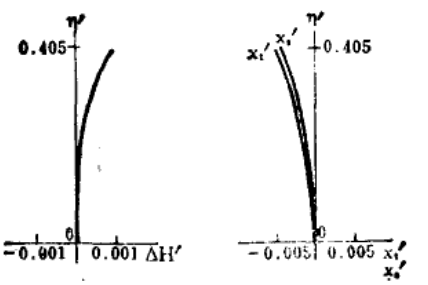


序号	r	d	n	v	序号	r	d	n	v
1	1.5323	0.0758	1.75500	52.33	6	0.7513	0.1088	1.49250	81.90
2	－0.5965	0.0075			7	－0.2819	0.0262		
3	0.1647	0.0659	1.77250	49.60	8	10.9245	0.1125	1.62041	60.27
4	0.1435	0.2139			9	－0.6141			
5	－0.1196	0.2262	1.59270	35.29					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000064	－0.000008	－0.000016	－0.000125	0.000218	0.0999	0.9%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_T'	K_{T_0}'
100	－0.00003	－0.00025	0.00090	－0.00468	－0.00455	－0.00013	－0.000497	－0.000086
70	0.00050	－0.00013	0.00030	－0.00239	－0.00215	－0.00024	－0.000038	－0.000011





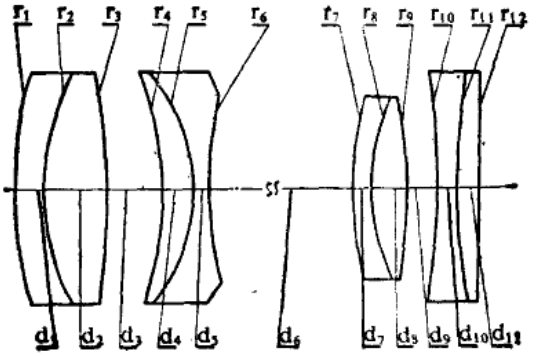
注：当1＝－W.D.时，β＝－4.05。

编号：10-05-011

显微镜变倍低倍物镜

E.F.L＝94.969～88.330　B.F.L＝172.763～172.895　N.A.＝0.02**～0.06**

L_p＝0　η＝16**～5**　β＝－0.63～－2　W.D.＝150.65



序　号	r	d	n	v
1	41.912	2.5	1.7343	28.4
2	20.113	5.5	1.5821	53.6
3	－81.930	＊＊＊1		
4	－30.839	2.5	1.7685	26.8
5	－15.399	1.5	1.5917	52.9
6	42.963	＊＊＊2		
7	46.007	1.5	1.7343	28.4
8	22.010	3.0	1.5749	57.3
9	－62.106	＊＊＊3		
10	－95.429	1.5	1.5749	57.3
11	150.205	1.5	1.7343	28.4
12	∞			

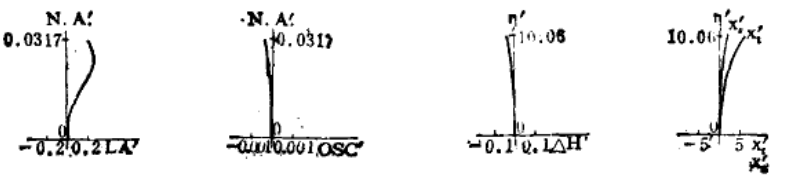
10-05-11-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00063	-0.00038	0.00086	0.00022	-0.00147	15.988	-0.14%

N.A.'或η'%	LA'	OSC'	ΔH'	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.220	-0.00044	-0.022	5.734	1.772	3.962	0.0544	0.0213
70	0.259	-0.00026	-0.010	2.282	0.777	1.505	0.0101	0.0020

E.F.L=94.969

***1=4.97, ***2=66.35, ***3=3.24



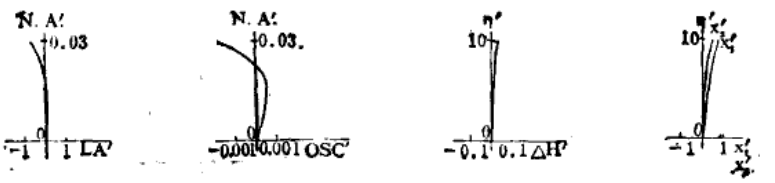
10-05-11-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	Q (1ω)
	0.00098	0.00181	0.00253	0.00019	0.00302	4.998	0.45%

N.A.'或η'%	LA'	OSC'	ΔH'	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.723	-0.00241	0.022	0.687	0.302	0.385	-0.308	-0.074
70	-0.123	0.00031	0.008	0.448	0.171	0.277	-0.138	-0.027

E.F.L=88.330

***1=29.61, ***2=13.31, ***3=31.64

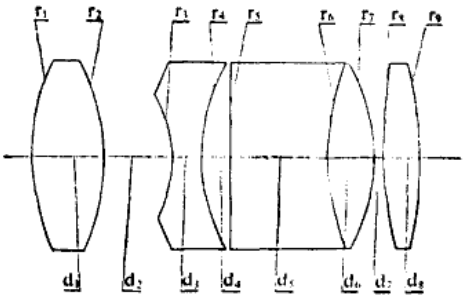


注：当1=-WD时，β=-0.629～-2.0007。

编号：10-05-012

低倍显微镜物镜

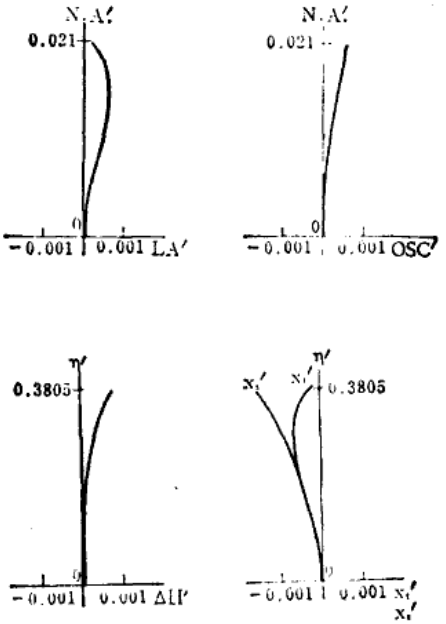
E.F.L=0.9986B F.L=4.8352N.A.=0.1L_p=0 η=0.08**β=−4.75W.D.=0.2553



序号	r	d	n	v	序号	r	d	n	v
1	0.3225	0.1502	1.58144	40.75	6	0.7337	0.0970	1.48656	84.47
2	−0.3658	0.1427			7	−0.2352	0.0207		
3	−0.1344	0.0672	1.56965	49.33	8	1.5301	0.0734	1.48656	84.47
4	0.2232	0.0562			9	−1.4499			
5	−4.5980	0.2199	1.59270	35.29					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000046	0.000010	−0.000002	−0.000031	0.000065	0.07999	0.83%

N.A′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K'_{r1}	$K'_{r0.7}$
100	0.00019	0.00061	0.00066	−0.00041	−0.00176	0.00135	−0.000037	−0.000001
70	0.00069	0.00033	0.00016	−0.00086	−0.00090	0.00004	−0.000004	0.000011



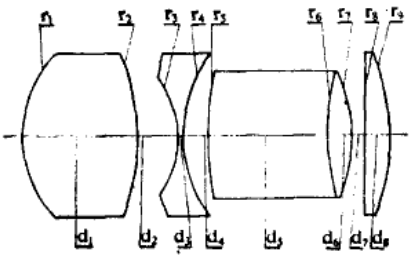
注：当 l = −W D 时，β = −4.756。

编号：10-05-013

低倍显微镜物镜

E.F.L＝0.9995　B.F.L＝4.6194　N.A.＝0.1　L_p＝0

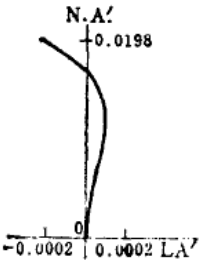
η＝0.08　β＝－5　W.D.＝0.1807**

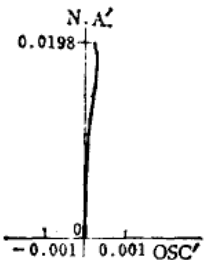


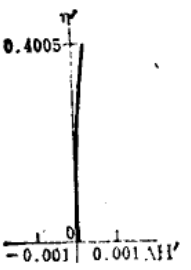
序号	r	d	n	v	序号	r	d	n	v
1	0.2894	0.2907	1.76200	40.20	6	0.6796	0.0633	1.48656	84.47
2	－0.8923	0.0962			7	－0.2970	0.0273		
3	－0.1368	0.0199	1.57041	48.13	8	－32.3421	0.0682	1.48656	84.47
4	0.2550	0.0668			9	－0.5778			
5	1.0998	0.2926	1.59270	35.29					

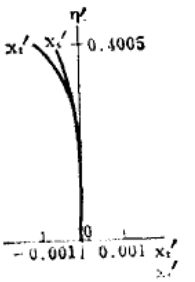
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	OP(1ω)
	0.000010	0.000008	0.000005	－0.000001	0.000040	0.07998	0.27%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.00026	0.00020	0.00022	－0.00116	－0.00049	－0.00067	－0.000313	－0.000107
70	0.00007	0.00018	0.00007	－0.00010	－0.00007	－0.00003	－0.000102	－0.000021









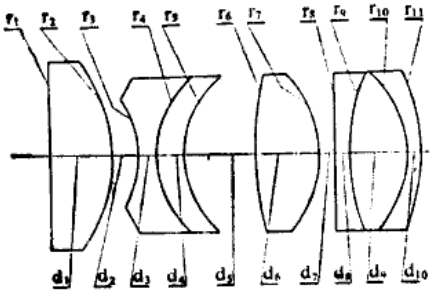
注：当 l＝－W.D.时，β＝－5.007。

编号：10-05-014

低 倍 显 微 镜 物 镜

E.F.L=27.796　B.F.L=147.73　N.A.=0.16　L_p=0

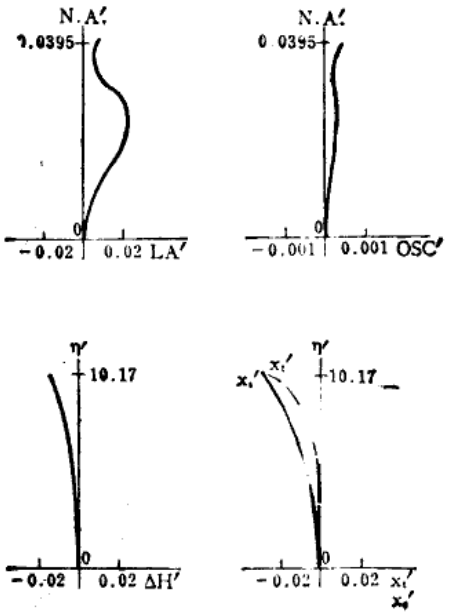
η=2.5　β=－4　W.D.=4.46**



序号	r	d	n	v	序号	r	d	n	v
1	－541.350	5.53	1.78472	25.7	7	－9.226	1.14		
2	－10.080	2.78			8	－823.510	1.18	1.61342	57.4
3	－6.100	1.71	1.56873	63.2	9	12.878	5.00	1.48656	84.5
4	5.125	2.55	1.67000	57.3	10	－7.520	1.09	1.61765	55.1
5	6.619	6.08			11	－14.740			
6	29.340	5.87	1.43389	95.2					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.00653	0.00097	0.00092	－0.00201	－0.00491	2.498	－0.64%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0124	0.00037	－0.016	－0.030	－0.036	0.006	0.01798	－0.00010
70	0.0203	0.00027	－0.005	－0.003	－0.014	0.011	0.00959	0.00020



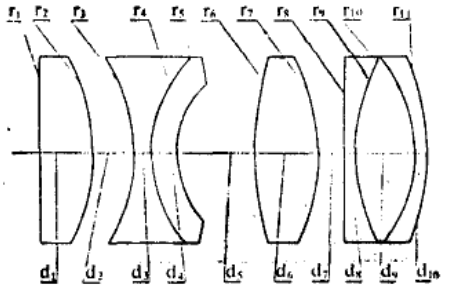
注：当 l＝－W.D 时，β＝－4.07。

编号：10-05-015

低 倍 显 微 镜 物 镜

E.F.L＝30.249　B.F.L＝148.178　N.A.＝0.16　L_p＝0

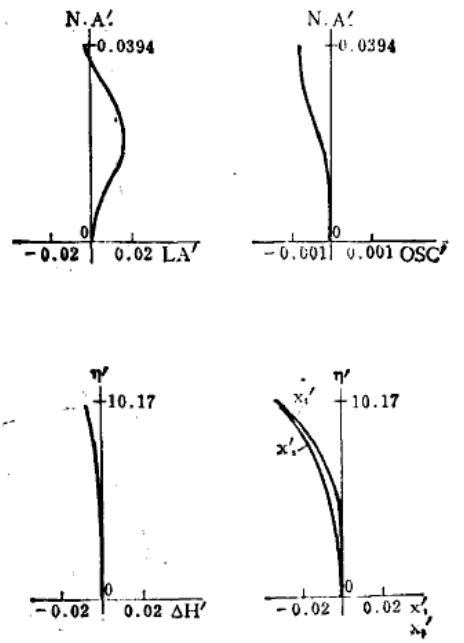
η＝2.5　β＝－4　W.D ＝3.61**



序号	r	d	n	v	序号	r	d	n	v
1	∞	4.50	1.78472	25.7	7	－9.394	2.00		
2	－9.539	3.61			8	－464 618	1.02	1.61342	57.4
3	－7.017	1.66	1.56873	63.2	9	12.560	5.09	1.48656	84.5
4	4.246	2.21	1.67000	57.3	10	－7.690	1.04	1.61769	55.1
5	5.663	6.79			11	－14.556			
6	32.100	5.90	1.43389	95.2					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00615	－0.00035	0.00057	－0.00186	－0.00194	2.497	－0.26%

N.A.′或η′%	LA′	OSC′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	－0.0021	－0.00084	－0.0067	－0.0342	－0.0344	0.0002	0.01382	－0.00412
70	0.0149	－0.00049	－0.0024	－0.0087	－0.0147	0.0060	0.00618	－0.00314

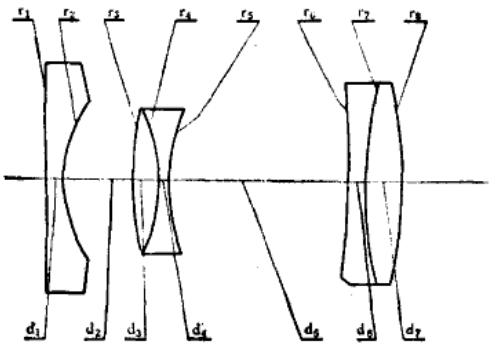


注：当 l ＝－W.D 时，β＝－4.07。

编号：10-05-016

三组元低倍显微镜物镜

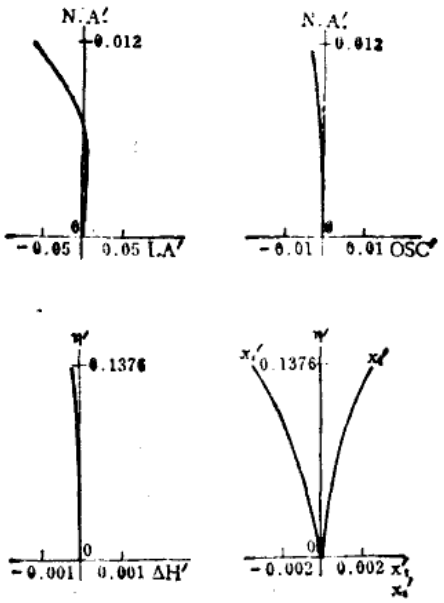
E.F.L＝1　B.F.L＝6.78　N.A.＝0.03**　L_p＝0　η＝0.055　β＝－2.5　W.D.＝0.5312



序号	r	d	n	v	序号	r	d	n	v
1	∞	0.02055	1.69669	56.13	5	0.13545	0.19826		
2	0.08442	0.08002			6	－1.37232	0.02055	1.74054	27.59
3	0.26868	0.03187	1.71715	29.51	7	0.21237	0.04745	1.69669	56.13
4	－0.06636	0.01493	1.64316	47.92	8	－0.21237			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000025	－0.000015	－0.000005	－0.000011	－0.000009	0.05501	－0.29%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	Kf_1	$Kf_{0.7}$
100	－0.0729	－0.0036	－0.00015	0.0027	－0.0034	0.0061	－0.00023	－0.00028
70	－0.0082	－0.0020	－0.00005	0.0013	－0.0017	0.0030	－0.00019	－0.00020



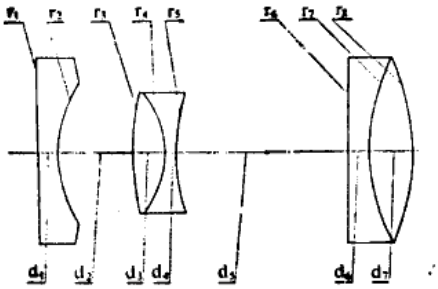
注：当 l＝－W.D.时，β＝－2.501。

编号：10-05-017

三组元低倍显微镜物镜

E.F.L=72.996　B.F.L=494.918　N.A.=0.03**　L_p=0

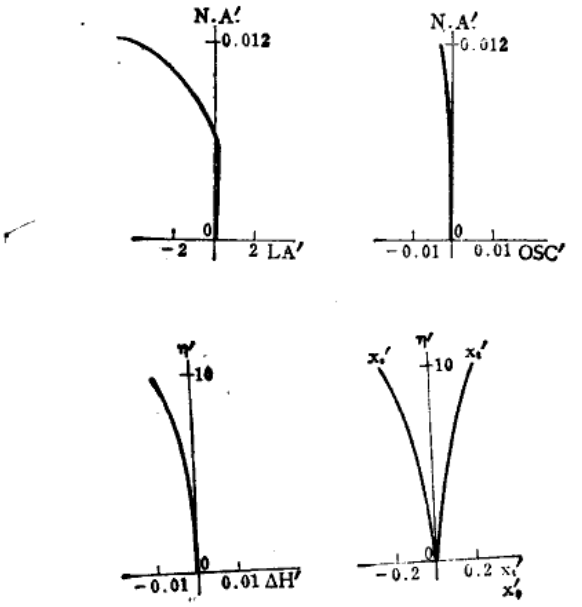
η=4　β=−2.5　W.D.=38.77



序号	r	d	n	v	序号	r	d	n	v
1	∞	1.500	1.69669	56.13	5	9.8860	14.470		
2	6.1617	5.840			6	−100.1600	1.500	1.74054	27.59
3	19.6100	2.326	1.71715	29.51	7	15.5000	3.463	1.69669	56.13
4	−4.8430	1.090	1.64316	47.92	8	−15.5000			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00186	−0.00114	0.00039	−0.00083	−0.00068	3.996	−0.28%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−5.330	−0.0036	−0.011	0.201	−0.246	0.447	−0.0168	−0.0204
70	−0.600	−0.0020	−0.004	0.098	−0.122	0.220	−0.0140	−0.0149



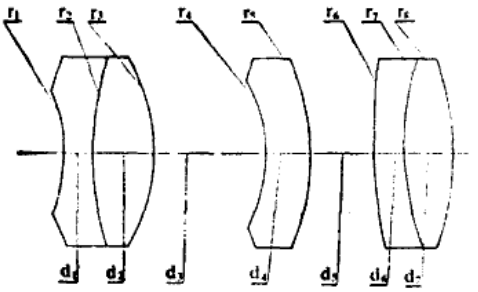
注：当 l = −W.D. 时，β = −2.502。

编号：10-05-018

大视场低倍显微镜物镜

E.F.L=27.998　B.F.L=143.8113　N.A.=0.1　L_p=0　η=2.5**

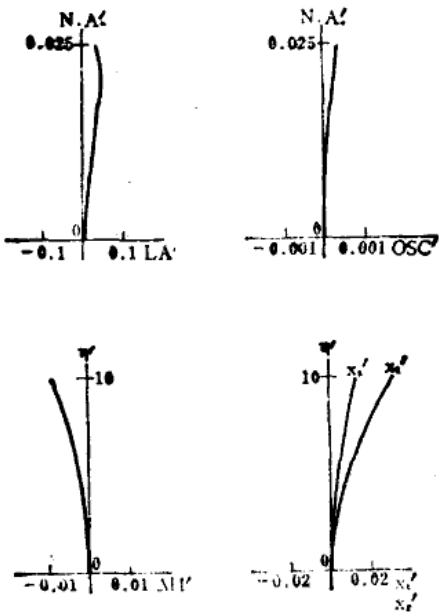
β=－4　W.D.=21.105



序号	r	d	n	v	序号	r	d	n	v
1	－6.13	1.2	1.516	64.0	5	－10.00	2.6		
2	14.70	2.5	1.744	44.7	6	54.07	1.3	1.699	30.1
3	－9.27	4.7			7	13.97	2.1	1.487	84.5
4	－6.51	2.0	1.603	38.0	8	－13.57			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.00283	0.00020	0.00020	0.00012	－0.00183	2.5	－0.37%

N.A.'或η'%	LA'	OSC'	ΔH'	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.030	0.00037	－0.009	0.029	0.013	0.016	0.0026	0.0011
70	0.046	0.00020	－0.003	0.016	0.007	0.009	0.0016	0.0009



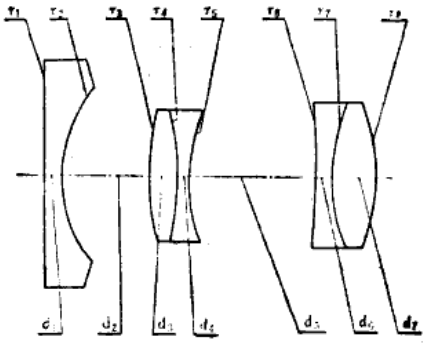
注：当 l＝－W.D.时，β＝－4。

编号：10-05-019

三组元低倍显微镜物镜

E.F.L=1.001　　B.F.L=6.8356　　N.A.=0.05**　　$L_p=0$

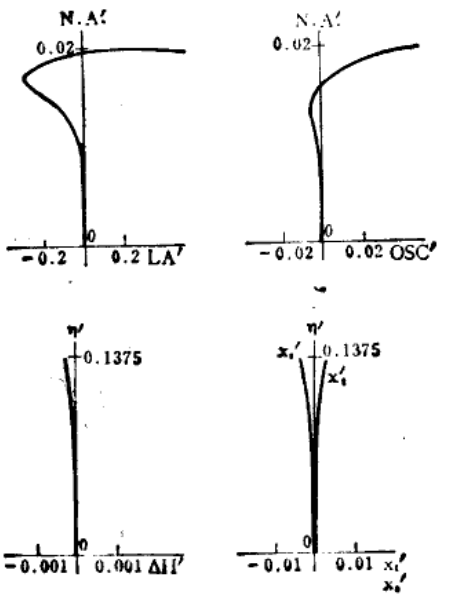
$\eta=0.055$**　　$\beta=-2.5$　　W.D.=0.53298



序号	r	d	n	v	序号	r	d	n	v
1	∞	0.02052	1.78833	50.47	5	0.12784	0.17226		
2	0.08962	0.10071			6	-0.90848	0.02051	1.80491	25.42
3	0.19820	0.03464	1.80491	25.42	7	0.23001	0.04835	1.78833	50.47
4	-0.07277	0.01487	1.74931	34.93	8	-0.22042			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	-0.000039	-0.000083	0.000013	-0.000032	-0.000017	0.05498	-0.31%

N.A.'或η' %	LA'	OSC'	ΔH'	x_4'	x_5'	$x_4'-x_5'$	K_{T1}'	$K_{T0.7}'$
100	0.550	0.0510	-0.00017	0.0017	-0.0037	0.0054	-0.2634	0.0005
70	-0.099	-0.0043	-0.00006	0.0008	-0.0018	0.0026	-0.1968	0.0002



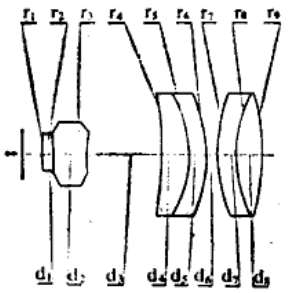
注：当 l = -W.D. 时，β = -2.5009。

编号：10-05-020

显 微 镜 物 镜

E.F.L=1.314　　B.F.L=2.612　　N.A.=0.2　　L_p=0　　η=0.07**

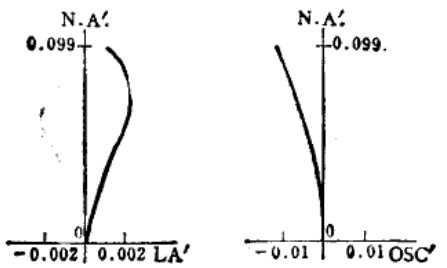
β=－2　　W.D.=0.158

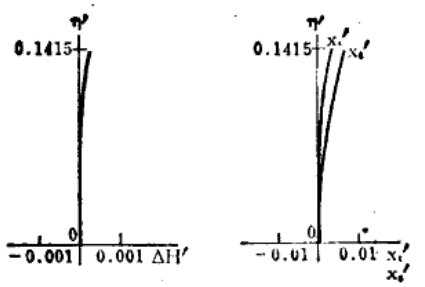


序号	r	d	n	v	序号	r	d	n	v
1	0.903	0.1054	1.751	27.8	6	－0.632	0.1054		
2	－0.480	0.2740	1.514	70.0	7	1.123	0.1580	1.689	30.9
3	0.557	0.6070			8	0.599	0.1975	1.541	59.9
4	－3.530	0.2117	1.514	70.0	9	－1.775			
5	－0.373	0.1110	1.720	29.3					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00065	－0.00026	0.00013	0.00017	0.00007	0.070	0.27%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0011	－0.0120	0.00019	0.0069	0.0037	0.0032	－0.0030	－0.0012
70	0.0025	－0.0053	0.00006	0.0035	0.0018	0.0017	－0.0021	－0.0008



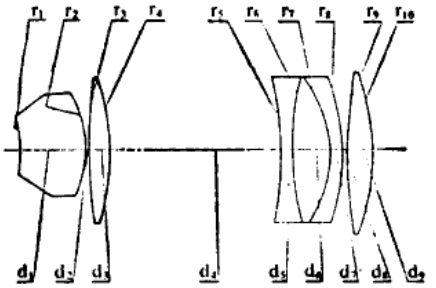


注：1.当 l＝－W D.时，β＝－2.02；2.β可达－10*。

编号：10-05-021

复消色差中倍显微镜物镜

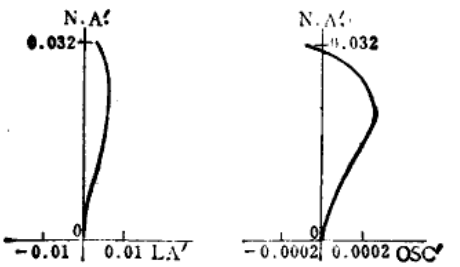
E.F.L=14.179 B.F.L=153.8055 N.A.=0.32 L_p=0 η=1 β=−10 W.D.=0.638**

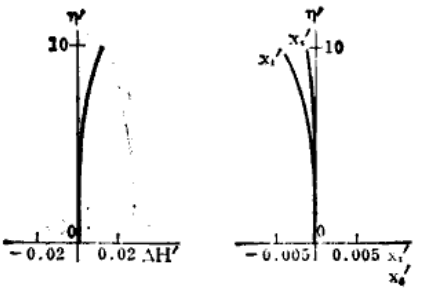


序号	r	d	n	v	序号	r	d	n	v
1	− 3.709	5.79	1.7847	25.7	6	18.130	3.20	1.4339	95.2
2	− 7.187	0.06			7	− 6.180	1.00	1.4875	70.0
3	39.087	1.35	1.4339	95.2	8	− 13.260	0.10		
4	− 12.182	14.75			9	41.663	2.00	1.4861	81.5
5	− 22.037	1.00	1.6994	49.7	10	− 15.570			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.004432	0.000688	0.000108	0.000003	0.007731	0.999	1.2%

N.A′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0035	−0.00010	0.012	−0.0043	−0.0011	−0.0032	−0.00336	0.00022
70	0.0063	0.00027	0.004	−0.0006	−0.0001	−0.0005	−0.00234	0.00013



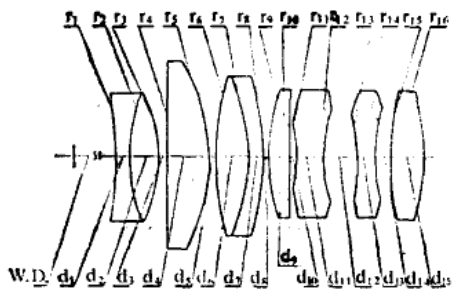


注：当 l = −W.D. 时，β = −10.009。

编号：10-05-022

长工作距离中倍显微镜物镜

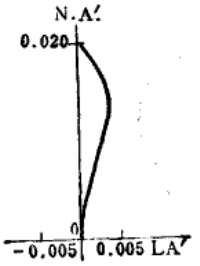
E.F.L=8.1417 B.F.L=153.201 N.A.=0.4 L_p=0 η=0.5 β=−20 W.D.=5.0149

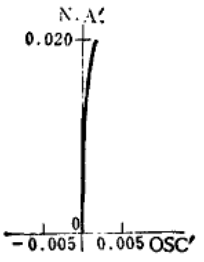


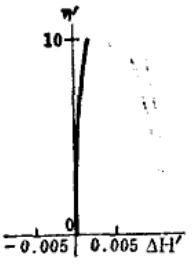
序号	r	d	n	v	序号	r	d	n	v
1	−46.9514	1.15	1.44628	67.2	9	10.6500	1.99	1.71300	53.9
2	11.0132	2.17	1.43386	94.9	10	86.5722	0.41		
3	−8.0654	0.69			11	−35.9346	2.42	1.80518	25.5
4	464.2827	3.50	1.71300	53.9	12	8.9307	2.90		
5	−13.5184	0.64			13	−8.1872	1.30	1.74950	35.0
6	25.7478	2.76	1.79668	45.3	14	12.2654	1.47		
7	−10.4000	1.29	1.80518	25.5	15	33.3828	2.89	1.79631	40.9
8	−21.8695	0.05			16	−11.4213			

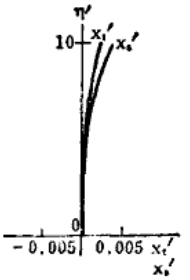
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00579	−0.00017	−0.00034	0.00133	0.00164	0.5	0.41%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.00049	0.00211	0.0020	0.0025	0.0034	−0.0009	0.0169	0.0034
70	0.00419	0.00014	0.0007	0.0008	0.0016	−0.0008	0.0087	0.0014







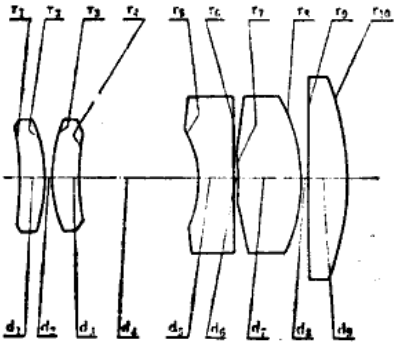


注：当 l = −W D 时，β = −19.999。

编号：10-05-023

较长工作距离中倍显微镜物镜

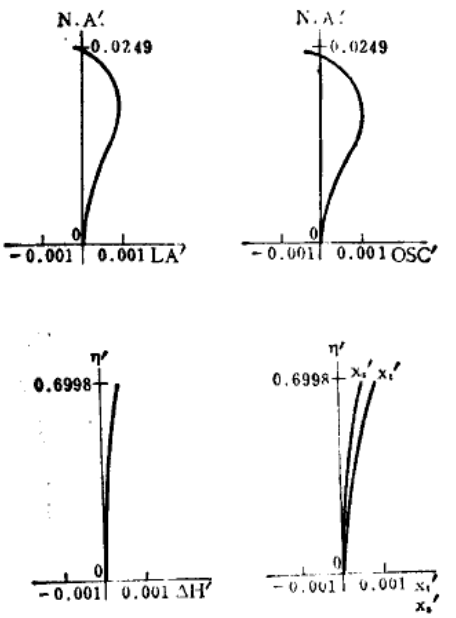
E.F.L＝1　B.F.L＝8.9883　N.A.＝0.25　L_p＝0　η＝0.07　　β＝－10　W.D.＝0.404**



序号	r	d	n	ν	序号	r	d	n	ν
1	－1.6154	0.0940	1.72916	54.7	6	∞	0.0075		
2	－0.4890	0.0281			7	－1.3286	0.2132	1.62299	58.2
3	0.3617	0.1035	1.64000	60.2	8	－0.4663	0.0344		
4	1.0714	0.4012			9	－12.9551	0.1399	1.64250	58.4
5	－0.1965	0.1307	1.80518	25.4	10	－0.6018			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HT	QP(1∞)
	0.00049	0.00016	0.00002	0.00006	0.00024	0.0699	0.71%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.00007	－0.0008	0.0004	0.0009	0.0006	0.0003	－0.00279	－0.00033
70	0.00112	0.0012	0.0001	0.0005	0.0003	0.0002	－0.00140	－0.00008

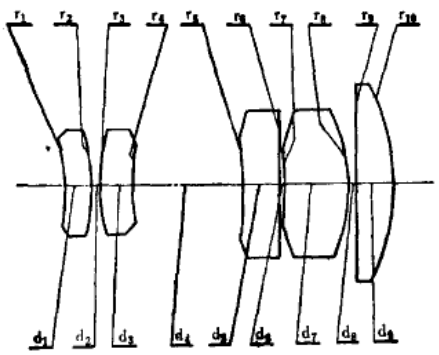


注：当 l ＝－W. D. 时，β＝－9.997。

编号：10-05-024

较长工作距离中倍显微镜物镜

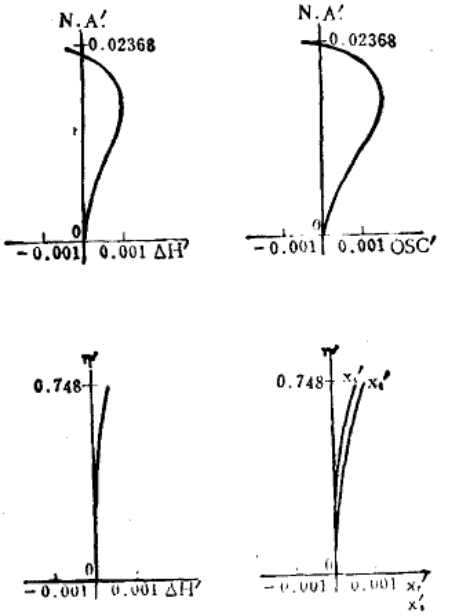
E.F.L=0.9997 B.F.L=9.8769 N.A.=0.25 L_p=0 η=0.07** β=−10 W.D.=0.4083



序号	r	d	n	v	序号	r	d	n	v
1	−1.3336	0.0964	1.75500	52.4	6	∞	0.0127		
2	−0.5108	0.0296			7	−1.3245	0.2177	1.62299	58.2
3	0.3588	0.1079	1.64000	60.2	8	−0.4754	0.0289		
4	1.1284	0.3806			9	36.3549	0.1387	1.64250	58.4
5	−0.2050	0.1332	1.80518	25.4	10	−0.6668			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00049	0.00019	0.00002	0.00006	0.00016	0.06999	0.45%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0\cdot7}'$
100	−0.00048	−0.00034	0.0003	0.0008	0.0006	0.0002	−0.00315	−0.00032
70	0.00101	0.00156	0.0001	0.0004	0.0003	0.0001	−0.00152	−0.00006

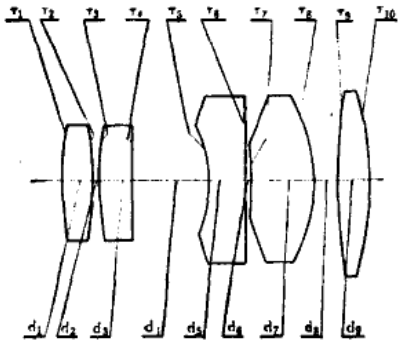


注：当 l = −W.D. 时，β = −10.68。

编号：10-05-025

较长工作距离中倍显微镜物镜

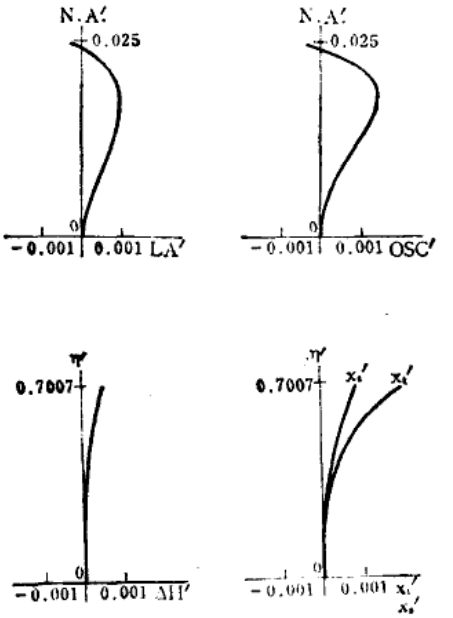
E.F.L=0.9997 B.F.L=9.3789 N.A.=0.25 L_p=0 η=0.07** β=−10 W.D.=0.4193



序号	r	d	n	v	序号	r	d	n	v
1	0.7385	0.0976	1.77250	49.6	6	∞	0.0138		
2	−0.8133	0.0296			7	−0.4858	0.2189	1.61800	63.4
3	1.1096	0.1065	1.69100	54.8	8	−0.3832	0.0849		
4	5.9537	0.2661			9	2.8955	0.1159	1.61800	63.4
5	−0.2321	0.1325	1.84666	23.9	10	−0.8358			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.000539	0.000193	0.000005	0.000076	0.000203	0.06999	0.69%

N.A.′减η′%	LA′	OSC′	ΔH′	x_i'	x_s'	$x_i'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.00028	−0.00024	0.00048	0.0020	0.0008	0.0012	−0.00006	0.00037
70	0.00109	0.00148	0.00015	0.0006	0.0003	0.0003	−0.00054	0.00014

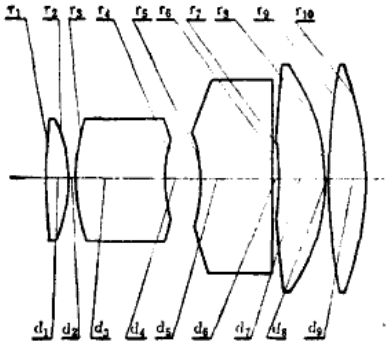


注，当 l = −W.D. 时，β = −10.01。

编号：10-05-026

较长工作距离中倍显微镜物镜

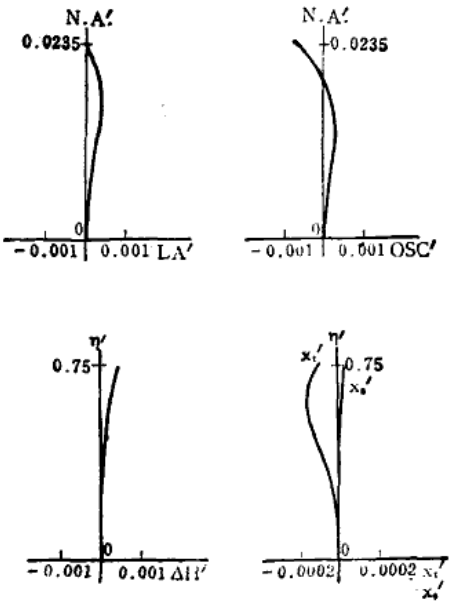
E.F.L＝1　B.F.L＝10.37　N.A.＝0.25　L_p＝0　η＝0.07**　β＝－10　W.D.＝0.43



序号	r	d	n	v	序号	r	d	n	v
1	4.1434	0.0746	1.69680	56.51	6	∞	0.0098		
2	－0.4743	0.0143			7	－1.6090	0.1680	1.61800	63.38
3	0.5249	0.3206	1.64000	60.09	8	－0.5059	0.0046		
4	0.4530	0.1118			9	4.2799	0 1393	1.65830	57.33
5	－0.2344	0.2546	1.80518	25.43	10	－0.7544			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00020	0.00005	－0.00002	0.00002	0.00021	0.0699	0.66%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.00007	－0.00089	0.00046	－0.00009	0.00001	－0.00010	－0.00090	－0.00013
70	0.00040	0.00026	0.00015	－0.00014	0	－0.00014	－0.00056	－0.00006

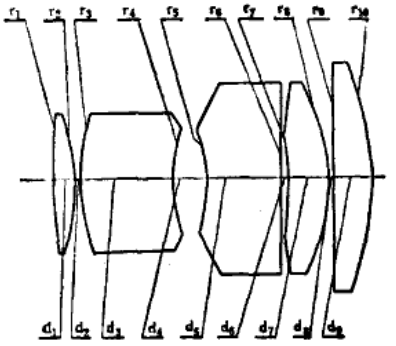


注：当 l＝－W.D.时，β＝－10.72。

编号：10-05-027

较长工作距离中倍显微镜物镜

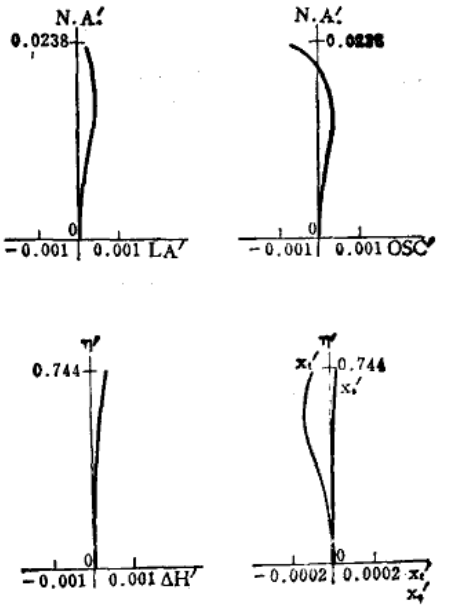
E.F.L＝1　B.F.L＝10.26　N.A.＝0.25　L_p＝0　η＝0.07　β＝－10　W.D.＝0.4288**



序号	r	d	n	v	序号	r	d	n	v
1	3.5764	0.0743	1.69680	56.51	6	∞	0.0172		
2	－0.4819	0.0143			7	－1.6598	0.1485	1.61800	63.38
3	0.5175	0.3205	1.61700	62.79	8	－0.5082	0.0046		
4	0.4467	0.1176			9	5.9087	0.1357	1.69680	56.51
5	－0.2324	0.2520	1.80518	25.43	10	－0.7362			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00021	0.00006	－0.00002	0.00002	0.00020	0.0699	0.64%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.00001	－0.00082	0.00045	－0.00008	0.00001	－0.00009	－0.00092	－0.00014
70	0.00045	0.00030	0.00015	－0.00013	0	－0.00013	－0.00056	－0.00006

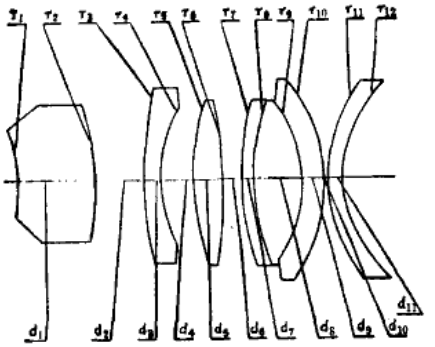


注：当 l＝－W.D.时，β＝－10.63。

编号：10-05-028

长工作距离中倍显微镜物镜

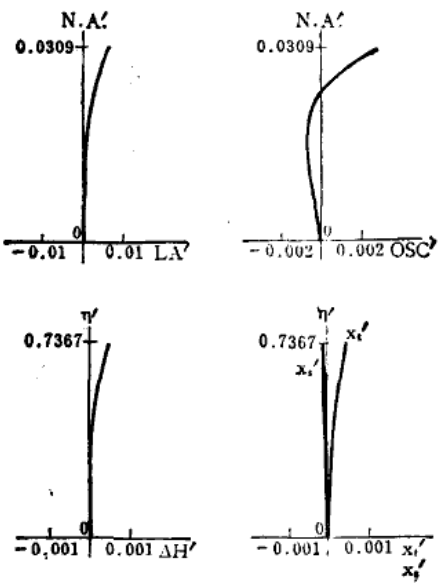
E.F.L=0.9988　B.F.L=12.096　N.A.=0.32　L_p=0　η=0.07**　β=−10　W.D.=0.09



序号	r	d	n	v	序号	r	d	n	v
1	−0.396	0.57	1.78472	25.7	7	1.536	0.08	1.73500	49.8
2	−0.644	0.32			8	0.709	0.31	1.43389	95.2
3	2.040	0.12	1.57501	41.5	9	−0.568	0.15	1.64769	33.8
4	0.593	0.22			10	−0.715	0.02		
5	1.248	0.21	1.65844	50.9	11	0.771	0.10	1.66680	33.0
6	−5.191	0.12			12	0.621			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00104	−0.00016	0.00005	−0.00005	0.00033	0.06999	0.73%

N.A.′或η′%	LA′	OSC′	ΔH′	x'_s	x'_t	$x'_s-x'_t$	$K\acute{T}_1$	$K\acute{T}_{0.7}$
100	0.0059	0.00342	0.00051	0.00047	−0.00002	0.00049	0.00183	0.00004
70	0.0024	−0.00041	0.00018	0.00024	0	0.00024	0.00134	0.00005

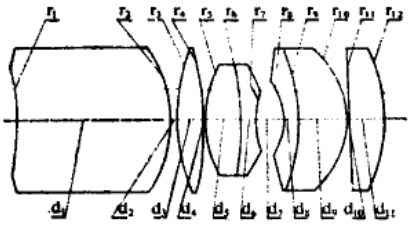


注：当 l = −W.D. 时，β = −10.52。

编号：10-05-029

中 倍 显 微 镜 物 镜

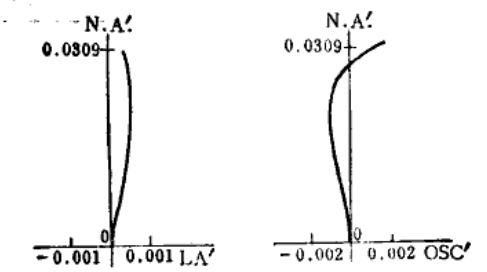
E.F.L=1.003 B.F.L=10.379 N.A.=0.32 L_p=0 η=0.07 β=−10 W.D.=0.22**

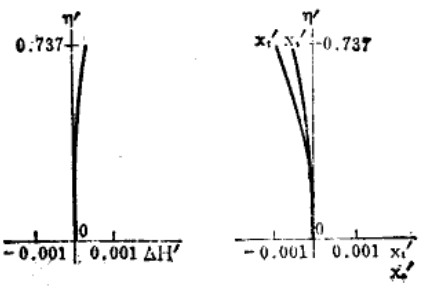


序号	r	d	n	v	序号	r	d	n	v
1	−1.329	0.85	1.51633	64.1	7	0.301	0.16		
2	−0.647	0.04			8	−0.272	0.08	1.66680	33.0
3	0.890	0.14	1.67003	47.3	9	−0.877	0.27	1.43389	95.2
4	−1.724	0.01			10	−0.407	0.01		
5	0.406	0.20	1.43389	95.2	11	−7.017	0.19	1.48656	84.5
6	−1.957	0.08	1.76200	40.2	12	−0.853			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00049	−0.00019	−0.00007	−0.00004	0.00025	0.0699	0.59%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.00031	0.0021	0.0004	−0.0010	−0.0005	−0.0005	0.00304	−0.00006
70	0.00067	−0.0013	0.0001	−0.0005	−0.0002	−0.0003	0.00195	−0.00005



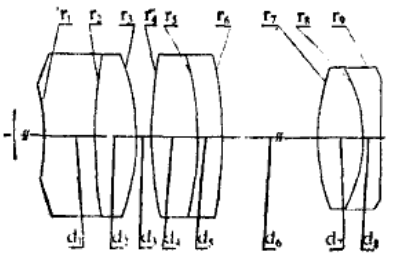


注：当 l = −W.D. 时，β = −10.53。

编号：10-05-030

中 倍 显 微 镜 物 镜

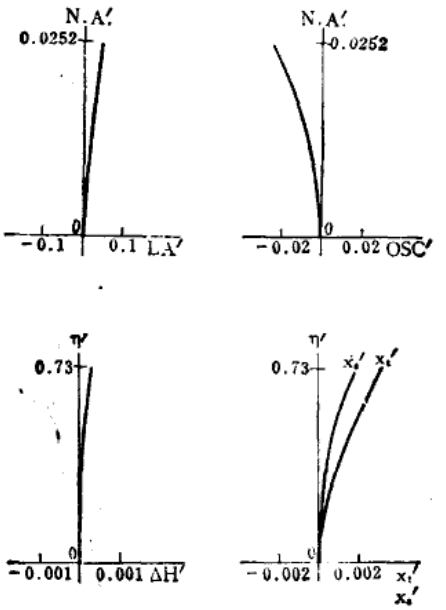
E.F.L=0.9909　　B.F.L=10.68　　N.A.=0.25　　L_p=0　　η=0.073　　β=−10
W.D.=0.313



序号	r	d	n	v	序号	r	d	n	v
1	−0.613	0.249	1.59551	39.2	6	−2.188	0.606		
2	2.874	0.213	1.67000	57.3	7	0.936	0.223	1.62606	39.1
3	−1.121	0.051			8	−0.648	0.096	1.71736	29.5
4	1.848	0.240	1.62041	60.3	9	9.560			
5	−1.229	0.118	1.71736	29.5					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00727	−0.00097	0.00007	0.00015	0.00008	0.0729	0.24%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0530	−0.0285	0.00018	0.0029	0.0017	0.0012	−0.0073	−0.0032
70	0.0277	−0.0137	0.00006	0.0015	0.0008	0.0007	−0.0052	−0.0023

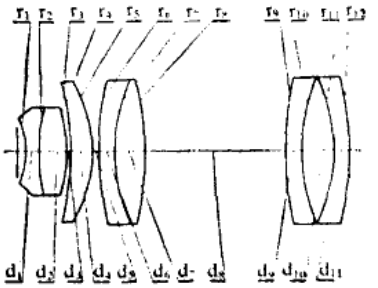


注：当 l = −W.D. 时，β = −10。

编号：10-05-031

复消色差中倍显微镜物镜

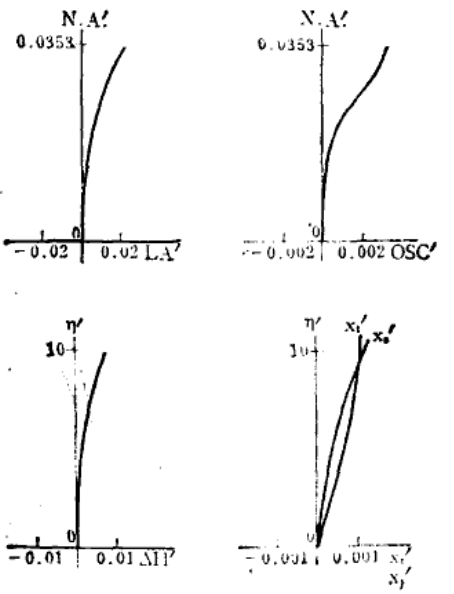
E.F.L=7.908　B.F.L=149.968　N.A.=0.65　L_p=0　η=0.5　β=−20
W.D.=0.4722



序号	r	d	n	v	序号	r	d	n	v
1	−2.21	1.6	1.547	53.6	7	9.35	3.1	1.434	95.2
2	11.96	2.9	1.486	81.5	8	−15.37	14.8		
3	−4.45	0.4			9	20.50	1.7	1.713	53.9
4	−15.60	2.3	1.434	95.2	10	9.61	3.1	1.434	95.2
5	−5.25	0.7			11	−9.40	1.7	1.664	49.2
6	−15.57	1.6	1.570	48.1	12	−19.90			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.01357	0.00017	0.00078	0.00054	0.01052	0.4936	1.45%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T_1}	$K_{T_{0.7}}$
100	0.0219	0.0035	0.0072	0.0011	0.0012	−0.0001	−0.0192	0.0025
70	0.0080	0.0012	0.0025	0.0009	0.0006	0.0003	−0.0018	0.0021

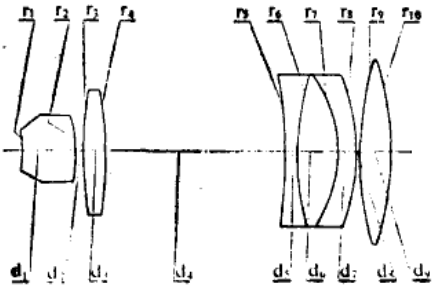


注：当 l = −W.D. 时，β = −20.01。

编号：10-05-032

复消色差中倍显微镜物镜

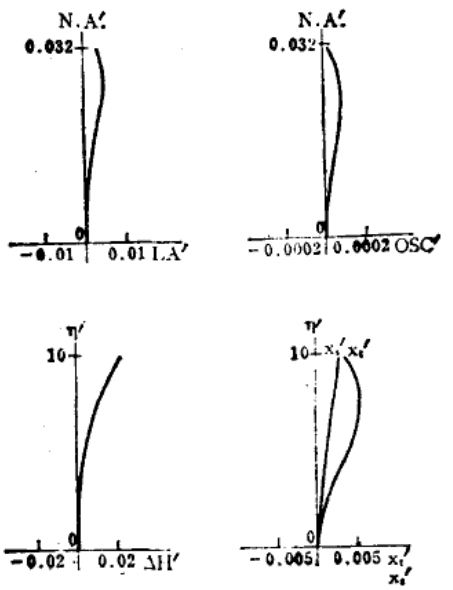
E.F.L=15.20　B.F.L=149.886　N.A.=0.32　L_p=0　η=1　β=−10
W.D.=0.555



序号	r	d	n	v	序号	r	d	n	v
1	−2.566	4.81	1.4978	67.0	6	15.818	3.49	1.4339	95.2
2	−4.943	0.45			7	−7.011	1.36	1.4875	70.0
3	21.730	1.62	1.7292	54.8	8	−16.090	0.11		
4	−22.810	17.69			9	27.508	2.68	1.4339	95.2
5	−37.998	1.00	1.6201	49.8	10	−25.728			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.002818	0.000303	0.001190	0.000001	0.012232	1	1.9%

N.A.′ 或 η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0034	0.00001	0.019	0.0032	0.0027	0.0005	0.00019	0.00071
70	0.0042	0.00012	0.006	0.0052	0.0021	0.0031	−0.00041	0.00024



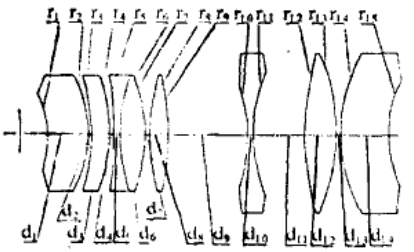
注：当 l = −W.D. 时，β = −9.999。

编号：10-05-033

中 倍 显 微 镜 物 镜

E.F.L=7.691 B.F.L=146.1001 N.A.=0.4 $L_p=0$ $\eta=0.5$ $\beta=-20$

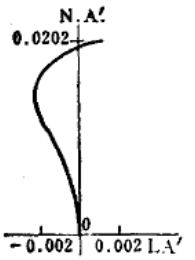
W.D.=3.4025

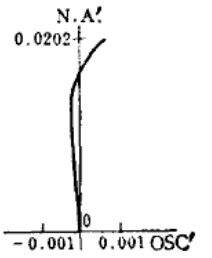


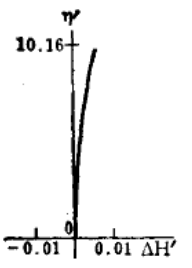
序号	r	d	n	v	序号	r	d	n	v
1	-5.06	4.0	1.78797	47.5	9	-24.70	8.0		
2	-6.30	0.2			10	-10.50	0.6	1.74077	27.7
3	-25.80	1.8	1.51680	64.2	11	11.50	5.0		
4	-9.63	0.1			12	28.35	3.2	1.73350	51.0
5	-43.20	0.7	1.74000	28.2	13	-15.10	0.5		
6	18.35	2.4	1.48669	81.7	14	12.03	4.9	1.63930	45.0
7	-11.50	0.6			15	7.35			
8	15.26	1.8	1.62041	60.3					

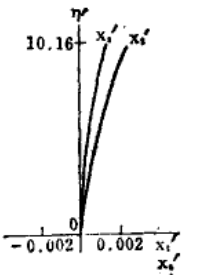
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(sω)
	-0.00278	-0.00048	0.00035	0.00014	0.00463	0.4996	1.12%

N.A.′或η′%	LA′	OSC′	ΔH′	x_i'	x_s'	$x_i'-x_s'$	K_{T1}'	K_{T0}'
100	0.0013	0.00066	0.0055	0.0024	0.0013	0.0011	0.005625	0.000008
70	-0.0024	-0.00020	0.0019	0.0015	0.0007	0.0008	0.003261	0.000030









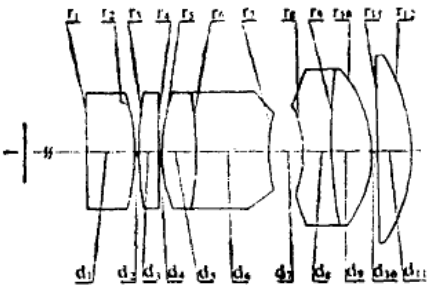
注：当 l = -W.D.时，β = -20.33。

编号：10-05-034

平像场长工作距离中倍显微镜物镜

E.F.L=0.997　B.F.L=8.798　N.A.=0.3　$L_p=0$　$\eta=0.07^{**}$　$\beta=-10$

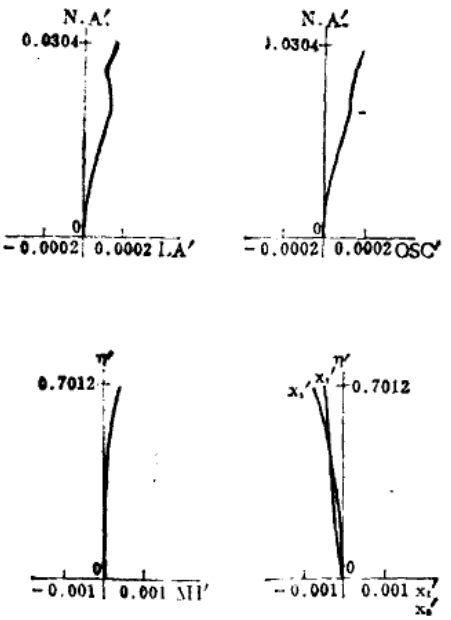
W.D.=0.4556



序号	r	d	n	v	序号	r	d	n	v
1	5.203	0.201	1.773	49.6	7	0.274	0.131		
2	−0.618	0.011			8	−0.199	0.122	1.719	33.5
3	1.483	0.091	1.804	46.6	9	3.220	0.170	1.493	81.9
4	−9.262	0.011			10	−0.376	0.011		
5	0.467	0.149	1.493	81.9	11	15.702	0.165	1.729	54.7
6	−1.431	0.312	1.740	31.7	12	−0.646			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00011	0.00002	−0.00002	−0.00015	0.00019	0.070	0.55%

N.A.′ 或 η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.00017	0.00020	0.00038	−0.00048	−0.00084	0.00036	0.00011	0.00001
70	0.00013	0.00017	0.00012	−0.00044	−0.00045	0.00001	−0.00002	−0.00001



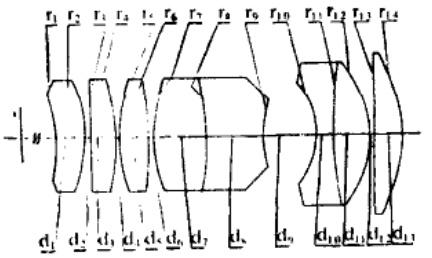
注：当 l = −W.D. 时，β = −10.01。

编号：10-05-035

平像场长工作距离中倍显微镜物镜

E.F.L＝1.010　B.F.L＝8.5647　N.A.＝0.3　L_p＝0　η＝0.07　　β＝－10**

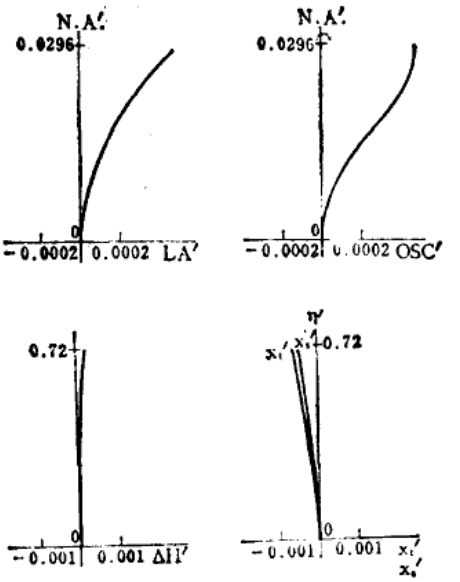
W.D.＝0.434



序号	r	d	n	v	序号	r	d	n	v
1	－0.701	0.145	1.804	39.6	8	－1.000	0.272	1.740	31.7
2	－0.543	0.011			9	0.300	0.261		
3	－8.362	0.121	1.487	70.2	10	－0.206	0.080	1.596	39.2
4	－0.909	0.011			11	2.234	0.186	1.497	81.6
5	0.637	0.142	1.497	81.6	12	－0.406	0.011		
6	－2.776	0.011			13	－4.064	0.131	1.729	54.7
7	0.581	0.266	1.497	81.6	14	－0.612			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HJ	QP(1∞)
	0.000122	0.000039	－0.000017	－0.000100	0.000127	0.0699	0.27%

N.A.′ 或 η′%	LA′	OSC′	ΔH′	x_i	x'_i	$x_i-x'_i$	K'_{T1}	$K'_{T0.7}$
100	0.00047	0.00050	0.00019	－0.00077	－0.00060	－0.00017	0.00009	0.00008
70	0.00026	0.00030	0.00006	－0.00041	－0.00031	－0.00010	－0.00002	0.00003



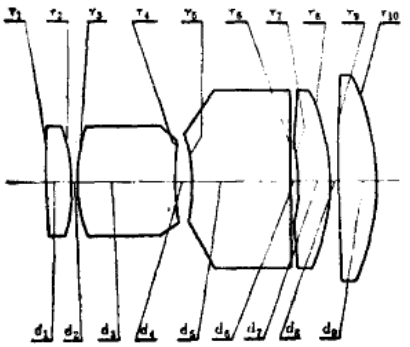
注：当 l＝－W D.时，β＝－10.28。

编号：10-05-036

平像场中倍显微镜物镜

E.F.L＝1　B.F.L＝10.302　N.A.＝0.25　L_p＝0　η＝0.073　　β＝－10**

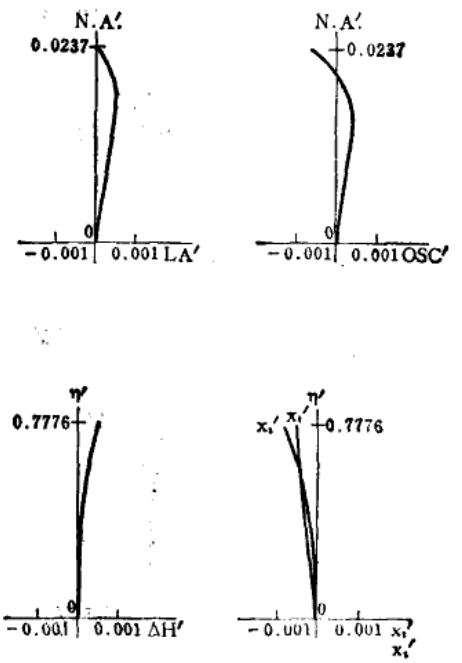
W.D.＝0.4306



序号	r	d	n	v	序号	r	d	n	v
1	3.3023	0.0746	1.69350	53.23	6	∞	0.075		
2	－0.4440	0.0201			7	－2.3636	0.1268	1.61800	63.38
3	0.4692	0.3327	1.62041	60.27	8	－0.5095	0.0057		
4	0.3526	0.0522			9	4.1962	0.1394	1.65830	57.33
5	－0.2018	0.3419	1.80518	25.43	10	－0.7572			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.000200	0.000068	－0.000031	－0.000076	0.000269	0.07299	0.85%

N.A.′ 或 η′%	LA′	OSC'_s	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	－0.00005	－0.00077	0.0006	－0.0006	－0.0008	0.0002	－0.00114	－0.00020
70	0.00042	0.00037	0.0002	－0.0005	－0.0004	－0.0001	－0.00070	－0.00009



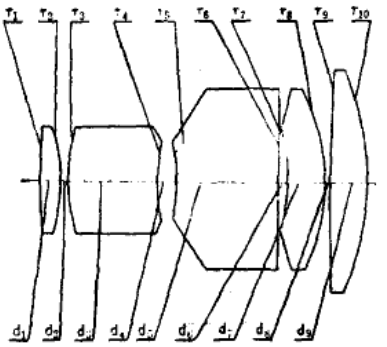
注：当 l＝－W.D.时，β＝－10.65

编号：10-05-037

平像场中倍显微镜物镜

E.F.L=0.9999　B.F.L=10.261　N.A.=0.25　L_p=0　η=0.078**

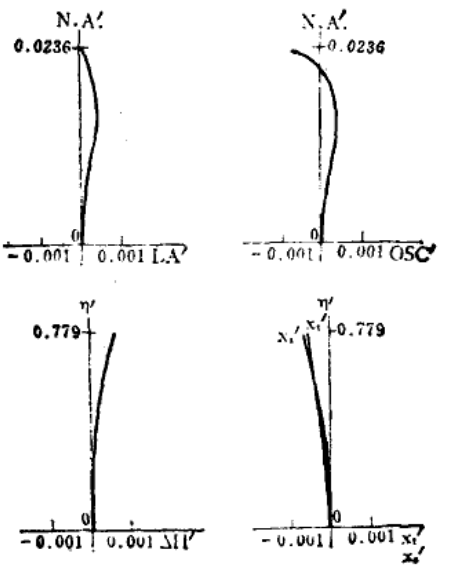
β=−10　W.D.=0.4282



序号	r	d	n	v	序号	r	d	n	v
1	4.4042	0.0742	1.72916	54.68	6	∞	0.0074		
2	−0.4510	0.0200			7	−2.2995	0.1314	1.61800	63.38
3	0.4462	0.3138	1.62041	60.27	8	−0.5150	0.0057		
4	0.3419	0.0690			9	4.6177	0.1386	1.65830	57.33
5	−0.2035	0.3401	1.80518	25.43	10	−0.7498			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.000199	0.000068	−0.000029	−0.000078	0.000278	0.0729	0.87%

N.A.′或η′%	LA′	OSC′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	−0.00007	−0.00073	0.00063	−0.00068	−0.00081	0.00013	−0.00121	−0.00023
70	0.00041	0.00038	0.00020	−0.00052	−0.00041	−0.00011	−0.00072	−0.00010



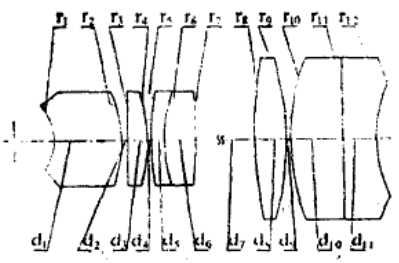
注：当 l = −W.D. 时，β = −10.67。

编号：10-05-038

大视场复消色差中倍显微镜物镜

E.F.L＝0.9995　B.F.L＝18.642　N.A.＝0.46　L_p＝0　η＝0.063**

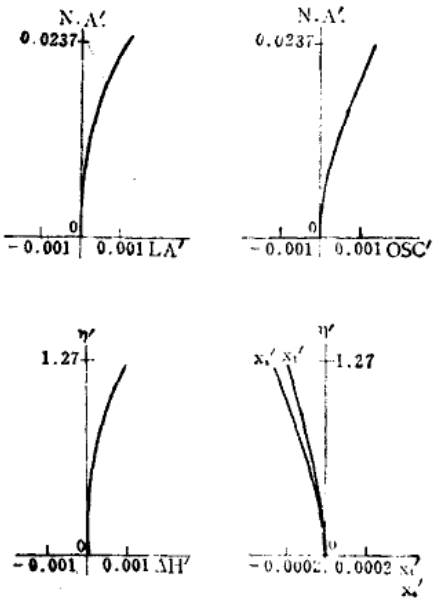
β＝－20　W.D.＝0.2557



序号	r	d	n	v	序号	r	d	n	v
1	－0.3728	0.6951	1.7725	49.60	7	－4.9268	3.1525		
2	－0.7076	0.0113			8	4.9513	0.3014	1.4976	81.60
3	30.7899	0.2105	1.4970	81.60	9	－3.0914	0.0628		
4	－1.0993	0.0100			10	2.5059	0.5401	1.6779	55.33
5	3.6804	0.1155	1.7618	27.11	11	－86.2812	0.3111	1.6134	43.84
6	1.1203	0.3145	1.4970	81.60	12	1.0903			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000517	0.000123	0.000010	－0.000143	0.000894	0.0631	1.48%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.00098	0.0014	0.0009	－0.00019	－0.00027	0.00008	0.00097	0.00021
70	0.00053	0.0008	0.0003	－0.00011	－0.00014	0.00003	0.00040	0.00012



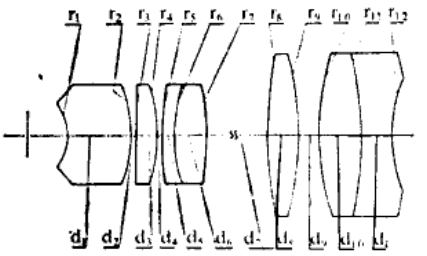
注：当 l＝－W D.时，β＝－20.12。

编号：10-05-039

大视场复消色差中倍显微镜物镜

E.F.L=1.062　B.F.L=19.562　N.A.=0.46　L_p=0　η=0.063　β=−20**

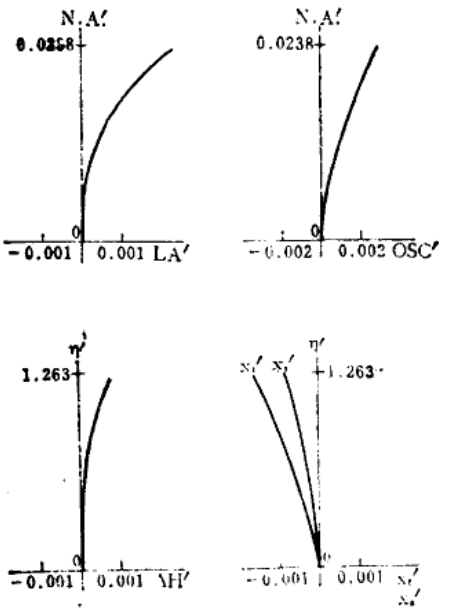
W.D.=0.2469



序号	r	d	n	v	序号	r	d	n	v
1	−0.3237	0.6218	1.61800	63.38	7	−2.6466	3.6281		
2	−0.6681	0.0113			8	5.1483	0.3019	1.66672	48.32
3	−10.5599	0.2113	1.61800	63.38	9	−3.6598	0.2126		
4	−1.0320	0.0088			10	2.1028	0.4076	1.58913	61.11
5	4.9815	0.1157	1.76180	27.11	11	−4.2073	0.3120	1.68065	37.39
6	1.1995	0.3145	1.49250	81.90	12	1.1062			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00072	0.00023	−0.00021	−0.00014	0.00069	0.0629	1.15%

N.A.′ 或 η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.00202	0.0030	0.0007	−0.0016	−0.0007	−0.0009	0.0011	0.0003
70	0.00089	0.0017	0.0002	−0.0008	−0.0003	−0.0005	0.0005	0.0002



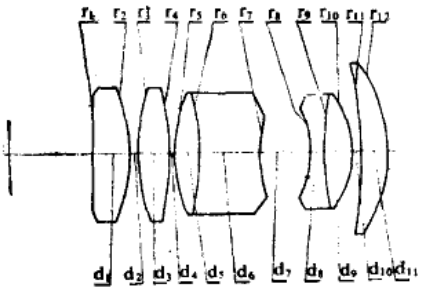
注：当 f′ = −W D. 时，β = −20.05。

编号：10-05-040

中 倍 显 微 镜 物 镜

E.F.L＝17.504　B.F.L＝153.35　N.A.＝0.25**　L_p＝0　η＝1　β＝－10

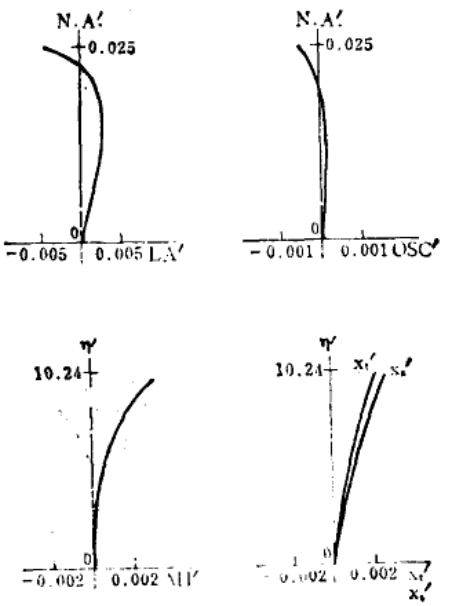
W.D.＝7.27



序号	r	d	n	v	序号	r	d	n	v
1	－275.70	3.2	1.5638	60.7	7	4.37	4.3		
2	－10.56	0.6			8	－3.52	1.0	1.5955	39.0
3	14.32	2.7	1.5687	63.1	9	36.91	2.5	1.4866	84.5
4	－28.00	0.2			10	－5.98	0.7		
5	8.48	2.3	1.4866	84.5	11	－55.09	2.2	1.6400	60.2
6	－16.72	5.0	1.6032	42.3	12	－8.77			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00211	0.00045	0.00001	0.00036	0.00167	1.018	0.33%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.0054	－0.00050	0.0033	0.0022	0.0028	－0.0006	－0.0098	－0.0023
70	0.0028	0.00008	0.0011	0.0013	0.0014	－0.0001	－0.0049	－0.0009



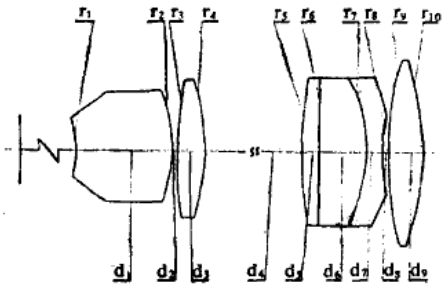
注：当 l ＝－W.D.时，β＝－10.05。

编号：10-05-041

复消色差中倍显微镜物镜

E.F.L＝15.378　B.F.L＝173.37　N.A.＝0.32　L_p＝0　η＝1**　β＝－10

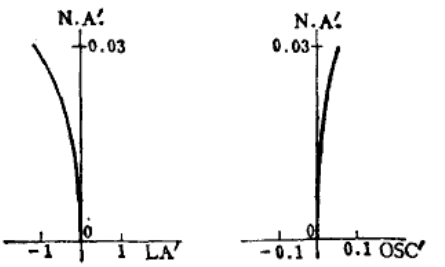
W.D.＝5.38

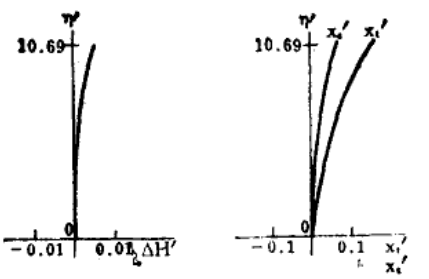


序号	r	d	n	v	序号	r	d	n	v
1	－3.581	5.16	1.7847	25.7	6	81.624	2.44	1.4339	95.2
2	－6.611	0.06			7	－6.875	1.00	1.4875	70.2
3	27.006	1.49	1.4339	95.2	8	14.214	0.10		
4	－14.188	15.53			9	35.611	1.96	1.4861	81.8
5	30.691	1.00	1.7000	48.1	10	－17.348			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	－0.1370	0.0201	0.0116	－0.0010	0.0033	0.999	0.52%

N.A.′ 或 η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－1.349	0.0561	0.0052	0.165	0.051	0.114	0.1076	0.0552
70	－0.443	0.0197	0.0018	0.082	0.025	0.057	0.0740	0.0386



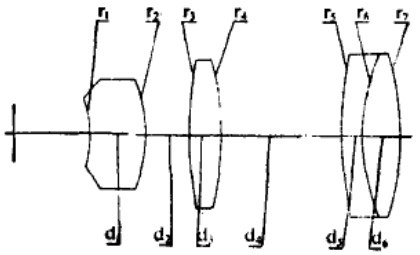


注：当 l＝－W.D 时，β＝－10.69。

编号：10-05-042

中 倍 显 微 镜 物 镜

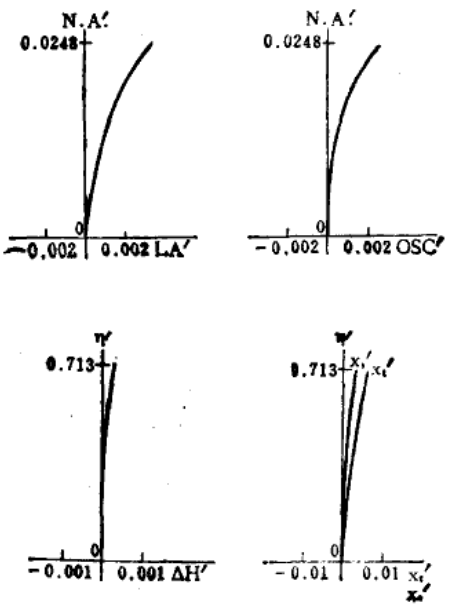
E.F.L=0.9999　B.F.L=10.786　N.A.=0.25　L_p=0　η=0.07　β=−10**
W.D.=0.433



序号	r	d	n	v	序号	r	d	n	v
1	−0.4275	0.2738	1.78833	50.47	5	2.9644	0.1095	1.78446	25.75
2	−0.5552	0.2149			6	0.7934	0.1916	1.51673	64.11
3	2.7523	0.1643	1.78833	50.47	7	−1.5729			
4	−2.0071	0.5911							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.000529	0.000056	0.000203	0.000119	0.000075	0.06995	0.34%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0031	0.00243	0.00024	0.0056	0.0025	0.0031	0.00062	0.00022
70	0.0018	0.00099	0.00008	0.0028	0.0012	0.0016	0.00045	0.00016



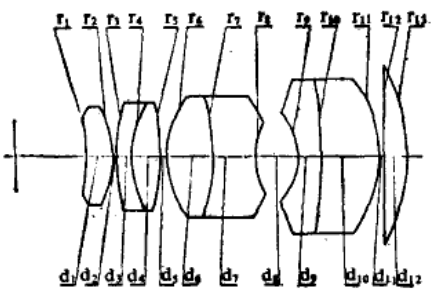
注：当 l = −W.D 时，β= −10.19。

编号：10-05-043

中 倍 显 微 镜 物 镜

E.F.L＝11.507　B.F.L＝201.378　N.A.＝0.4

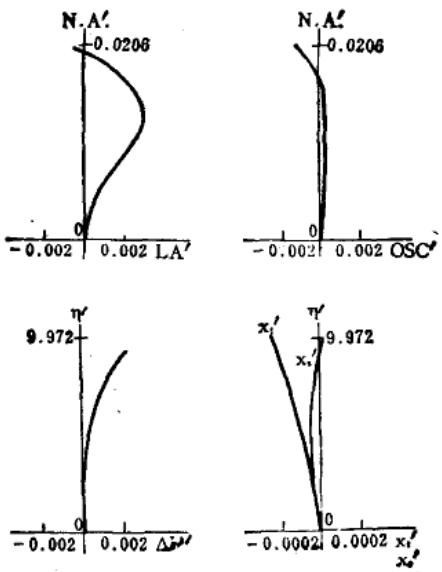
L_p＝0　η＝0.5　β＝－20　W.D.＝5



序号	r	d	n	ν	序号	r	d	n	ν
1	－16.437	1.93	1.78800	47.5	8	3.982	3.02		
2	－6.007	0.11			9	－3.127	1.62	1.64769	33.8
3	15.000	1.09	1.63980	34.6	10	－63.654	4.20	1.48656	84.5
4	7.304	2.14	1.48656	84.5	11	－6.629	0.16		
5	－14.127	0.28			12	－88.716	1.70	1.69680	56.5
6	6.923	3.44	1.61800	63.4	13	－11.782			
7	－11.030	3.03	1.62588	35.7					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.004152	0.000816	－0.000038	0.000011	0.002022	0.4999	0.5%

N.A.′ 或 η′%	LA′	OSC′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	－0.0008	－0.00161	0.0025	－0.00025	0.00002	－0.00027	－0.0170	－0.0022
70	0.0034	0.00032	0.0008	－0.00014	－0.00001	－0.00013	－0.0091	－0.0008



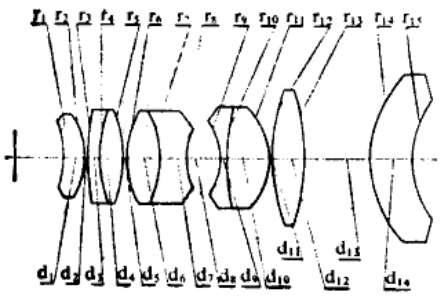
注：当 l ＝－W.D.时，β＝－19.94。

编号：10-05-044

中 倍 显 微 镜 物 镜

E.F.L＝10.261　B.F.L＝189.695　N.A.＝0.4　L_p＝0　η＝0.5　β＝−20

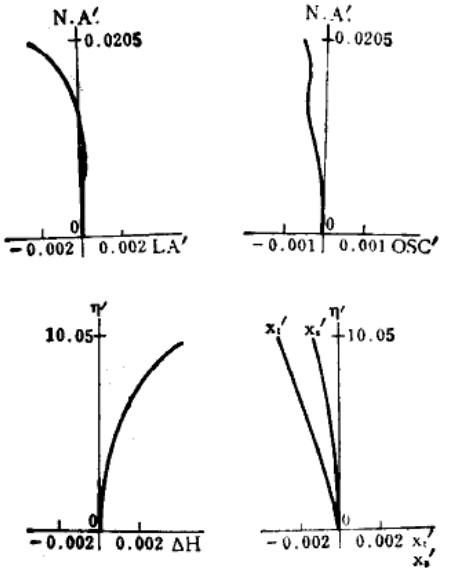
W.D.＝5.3



序号	r	d	n	v	序号	r	d	n	v
1	−8.33	2.21	1.56384	60.81	9	−3.71	0.99	1.57309	42.00
2	−5.10	0.15			10	23.38	4.05	1.48656	84.47
3	26.22	1.02	1.54869	45.55	11	−6.11	0.25		
4	12.17	2.33	1.48656	84.47	12	16.96	3.30	1.48656	84.47
5	−11.28	0.37			13	−18.95	7.00		
6	7.85	3.46	1.61800	63.38	14	10.15	4.27	1.58144	40.75
7	−9.58	3.07	1.63930	44.88	15	7.10			
8	4.29	3.20							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	−0.00002	−0.00100	−0.00049	−0.00002	0.00330	0.4998	0.8%

N.A.′ 或 η′%	LA′	OSC′	ΔH	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.0028	−0.00067	0.0040	−0.0036	−0.0013	−0.0023	−0.0013	0.0001
70	−0.0003	−0.00054	0.0014	−0.0020	−0.0007	−0.0013	−0.00115	−0.00004



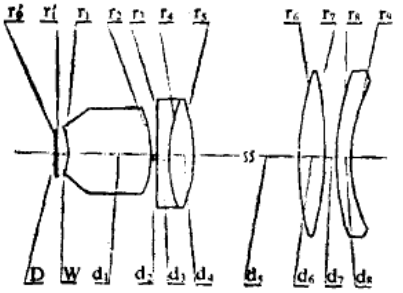
注：当 l ＝ −W.D. 时，β＝ −20.1。

编号：10-05-045

中 倍 显 微 镜 物 镜

E.F.L＝10.509　B.F.L＝150.067　N.A.＝0.4　L_p＝0

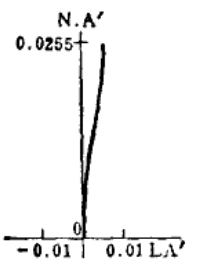
η＝0.62　β＝－16.2　W.D.＝0.91

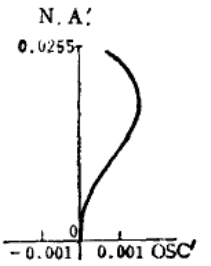


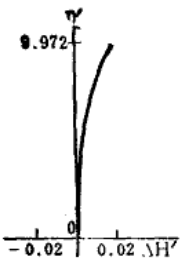
序号	r	d	n	ν	序号	r	d	n	ν
1	－3.160	7.00	1.61022	49.0	6	29.232	2.00	1.56606	60.5
2	－4.982	0.40			7	－29.232	1.00		
3	∞	1.00	1.76860	26.3	8	18.026	1.10	1.73430	28.1
4	9.840	2.00	1.60973	59.2	9	10.938			
5	－9.840	30.25							

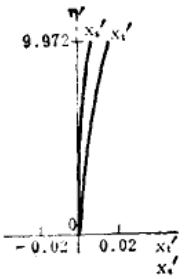
ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
0.00339	0.00256	0.00253	－0.00009	0.01545	0.6199	2.99%

N.A.′ 或 η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K_{f_{0.3}}$	$K_{f_{0.7}}$
100	0.0053	0.0006	0.0185	0.0159	0.0063	0.0096	－0.0213	－0.0044
70	0.0040	0.0015	0.0066	0.0094	0.0034	0.0060	－0.0092	0.0009









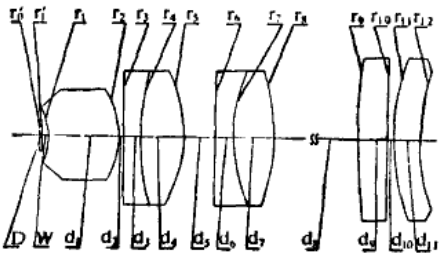
注：当 l ＝－W.D. 时，β＝－16.08。

编号：10-05-046

中 倍 显 微 镜 物 镜

E.F.L＝4.528　B.F.L＝108.072　N.A.＝0.65　L_p＝0　η＝0.333　β＝−30

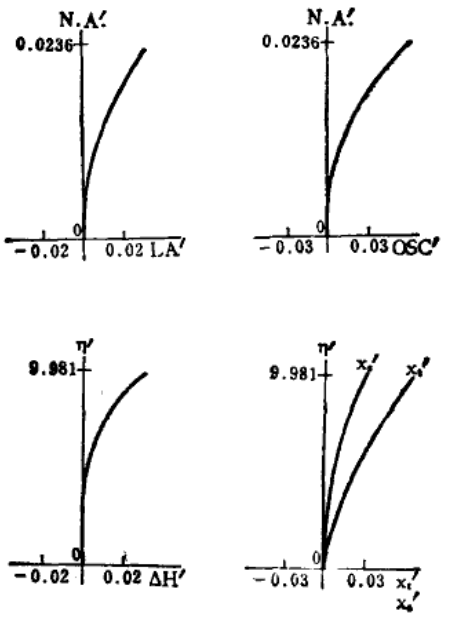
W.D.＝0.46



序号	r	d	n	v	序号	r	d	n	v
1	−2.450	3.56	1.72311	29.3	7	7.924	2.00	1.57086	63.0
2	−2.922	0.30			8	−9.500	30.35		
3	−51.111	0.80	1.79192	25.5	9	40.328	1.50	1.72311	29.3
4	18.793	2.12	1.52010	65.0	10	∞	0.30		
5	−5.081	1.50			11	16.759	1.20	1.62985	38.8
6	∞	0.90	1.79192	25.5	12	11.470			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.0258	0.0228	0.0226	0.0029	0.0403	0.3329	10.45%

N.A.′ 或 η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.034	0.061	0.034	0.062	0.029	0.033	16.52	−44.31
70	0.014	0.026	0.010	0.032	0.013	0.019	−23.78	0.1427

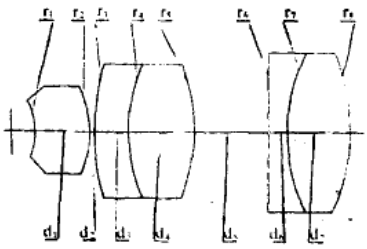


注：当 l ＝ −W.D.时，β＝−29.97。

编号：10-05-047

中 倍 显 微 镜 物 镜

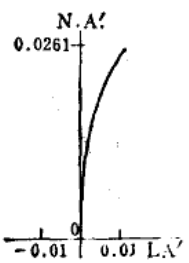
E.F L=0.9999 B.F.L=19.906 N.A.=0.5 L_p=0 η=0.055 β=−20
W.D.=0.228

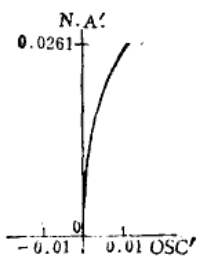


序号	r	d	n	v	序号	r	d	n	v
1	−0.4306	0.5346	1.78833	50.47	5	−1.3928	0.7479		
2	−0.6060	0.0285			6	26.2749	0.1994	1.80785	40.72
3	2.8566	0.3216	1.80489	25.45	7	1.2375	0.6212	1.50371	66.72
4	1.0188	0.6530	1.69669	55.60	8	−2.0117			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00488	0.00054	0.00055	0.00017	0.00041	0.0549	0.72%

N.A.′ 或 η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0093	0.0106	0.00039	0.0032	0.0013	0.0019	0.0020	0.00008
70	0.0046	0.0051	0.00014	0.0016	0.0006	0.0010	0.0015	0.00006





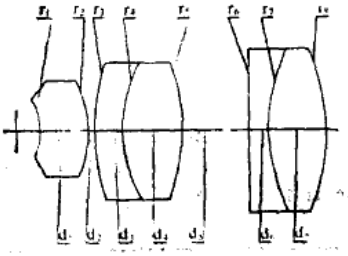
注：当 l = −W.D. 时，β = −20.01。

编号: 10-05-048

中倍显微镜物镜

E.F.L=9.14　B.F.L=183.877　N.A.=0.5　L_p=0　η=0.5　β=−20

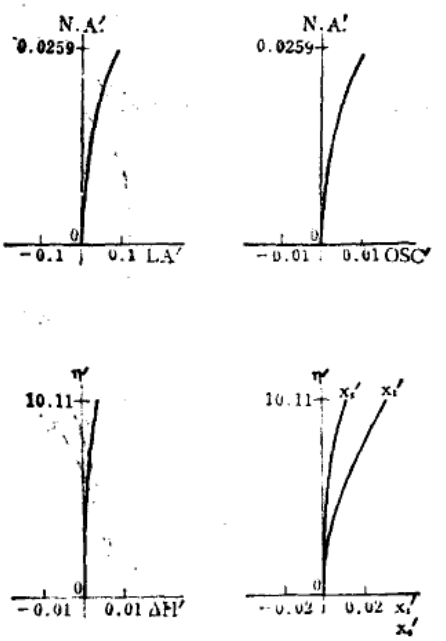
W.D.=2.09



序号	r	d	n	v	序号	r	d	n	v
1	−3.935	4.885	1.78833	50.47	5	−12.728	6.835		
2	−5.538	0.260			6	240.113	1.822	1.80785	40.72
3	26.105	2.939	1.80489	25.45	7	11.309	5.677	1.50271	66.72
4	9.310	5.967	1.69669	55.60	8	−18.384			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	$QP(1\omega)$
	0.0448	0.0050	0.0050	0.0015	0.0037	0.4998	0.72%

N.A.′或η′%	LA′	OSC′	ΔH′	x_1'	x_5'	$x_1'-x_5'$	K_{T1}'	$K_{T0.7}'$
100	0.085	0.010	0.0035	0.029	0.011	0.018	0.0186	0.0083
70	0.042	0.005	0.0012	0.015	0.006	0.009	0.0141	0.0062



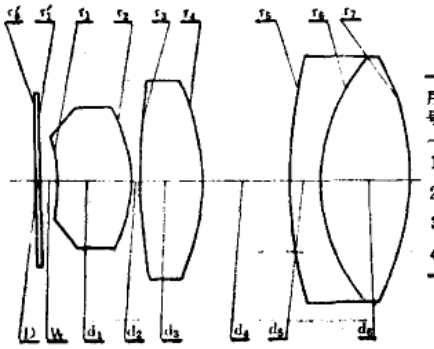
注：当 l = −W.D. 时，β = −20.22。

编号：10-05-049

消色差高倍显微镜物镜

E.F.L=0.9998　B.F.L=39.525　N.A.=0.65　L_p=0　η=0.07**　β=−40

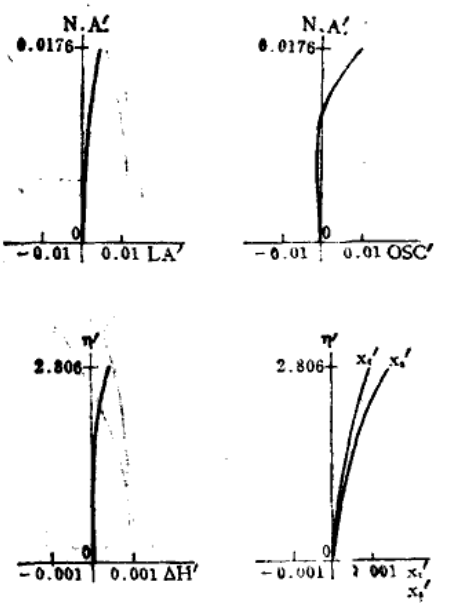
W.D.=0.15542



序号	r	d	n	v	序号	r	d	n	v
1	−1.089	0.624	1.60738	56.65	5	4.902	0.217	1.78470	26.08
2	−0.640	0.098			6	1.105	0.761	1.51112	60.41
3	7.938	0.520	1.62041	60.33	7	−2.143			
4	−1.371	0.704							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.00564	−0.00042	−0.00023	0.00177	0.00072	0.070	0.73%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{f1}	$K_{f0.7}$
100	0.0051	0.0106	0.00051	0.00098	0.00152	−0.00054	0.0079	0.0006
70	0.0022	0.0002	0.00018	0.00051	0.00076	−0.00025	0.0054	0.0004



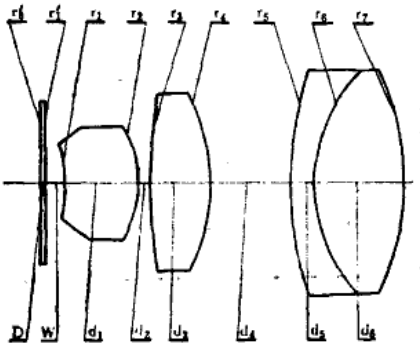
注：当 l = −W.D. 时，β = −40.08。

编号：10-05-050

消色差高倍显微镜物镜

E.F.L＝0.9983　B.F.L＝34.838　N.A.＝0.65　L_p＝0　η＝0.07**

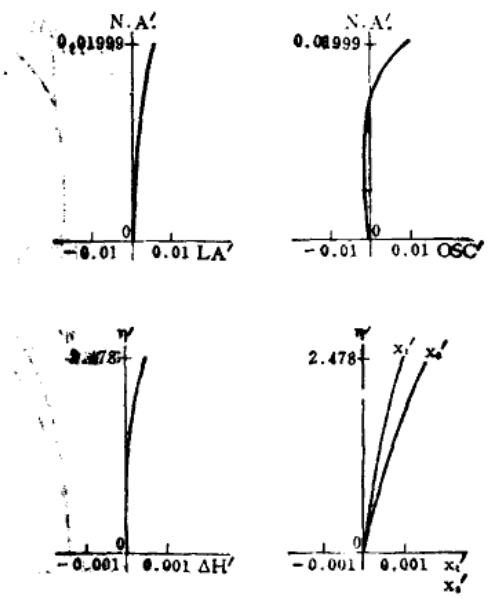
β＝－35　W.D.＝0.162



序号	r	d	n	v	序号	r	d	n	v
1	－1.058	0.623	1.60738	56.65	5	4.904	0.192	1.78470	26.08
2	－0.639	0.098			6	1.092	0.760	1.51112	60.41
3	7.935	0.519	1.62041	60.33	7	－2.142			
4	－1.371	0.690							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	$\frac{1}{2}\Sigma S_5$	HI	QP(1∞)
	0.00536	－0.00053	－0.00013	0.00175	0.00075	0.070	0.75%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0046	0.01043	0.00053	0.0012	0.0016	－0.0004	0.0082	0.0005
70	0.0020	－0.00017	0.00018	0.0006	0.0008	－0.0002	0.0055	0.0003



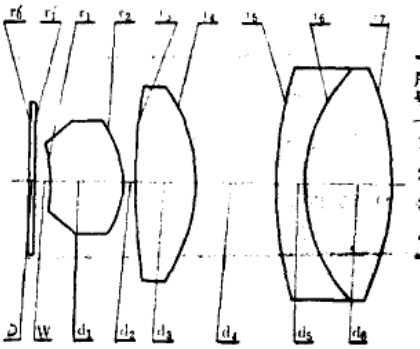
注：当 l ＝ －W.D. 时，β ≈ －35.4。

编号: 10-05-051

消色差高倍显微镜物镜

E.F.L=1.0066　B.F.L=44.732　N.A.=0.65　L_p=0　η=0.07**

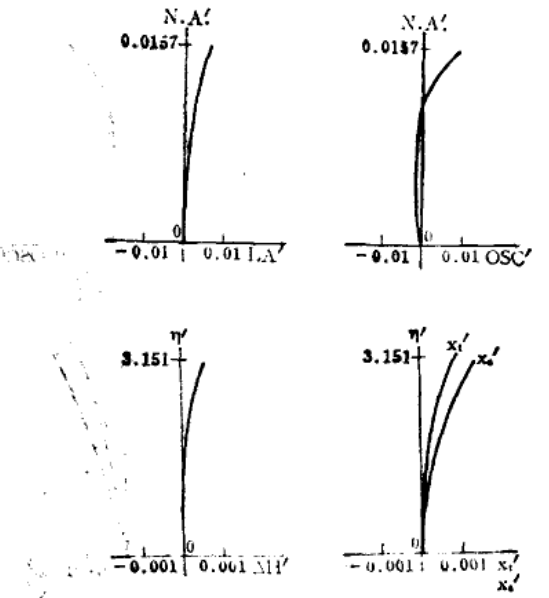
β=−45　W.D.=0.16055



序号	r	d	n	v	序号	r	d	n	v
1	−1.149	0.622	1.60738	56.65	5	4.951	0.244	1.78470	26.08
2	−0.646	0.097			6	1.116	0.768	1.51112	60.41
3	8.017	0.524	1.62041	60.33	7	−2.164			
4	−1.385	0.700							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00624	−0.00059	−0.00027	0.00179	0.00070	0.06999	0.70%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0058	0.0111	0.0004	0.0008	0.0015	−0.0007	0.0082	0.0007
70	0.0025	0.0004	0.0001	0.0004	0.0007	−0.0003	0.0056	0.0004



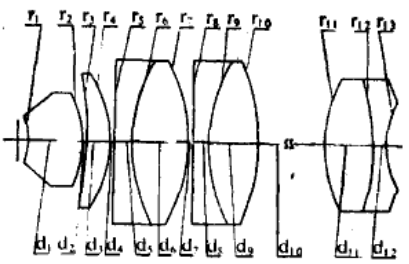
注: 当 l = −W.D. 时, β = −45.01。

编号：10-05-052

平像场消色差高倍显微镜物镜

E.F.L＝1　B.F.L＝38.66　N.A.＝0.7　L_p＝0　η＝0.07　β＝－40**

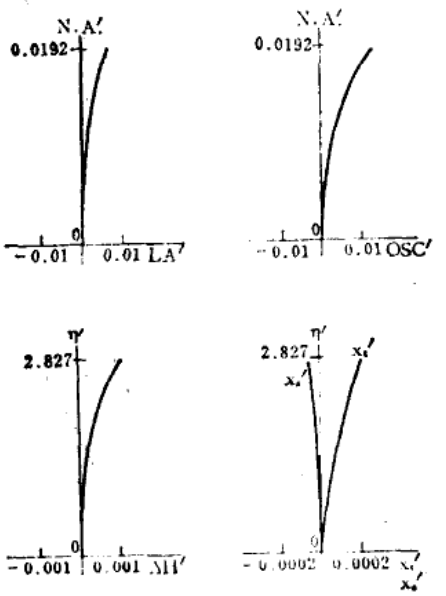
W.D.＝0.164



序号	r	d	n	v	序号	r	d	n	v
1	－0.4820	0.8512	1.80440	39.6	8	－35.0845	0.2182	1.80741	31.6
2	－0.8883	0.0252			9	1.9211	0.8296	1.49250	81.9
3	－8.6970	0.3976	1.49250	81.9	10	－2.5774	3.3850		
4	－1.2888	0.0345			11	1.8502	0.8023	1.72000	42.1
5	70.2367	0.2101	1.57501	41.5	12	－5.3865	0.1801	1.61484	51.2
6	1.9721	0.9118	1.49250	81.9	13	1.1815			
7	－2.0299	0.0537							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00620	0.00110	0.00021	－0.00026	0.00165	0.0699	1.48%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}	$K_{T0.7}$
100	0.0074	0.0139	0.0010	0.00020	－0.00003	0.00023	0.0436	0.0023
70	0.0027	0.0051	0.0003	0.00013	－0.00001	0.00014	0.0138	0.0013



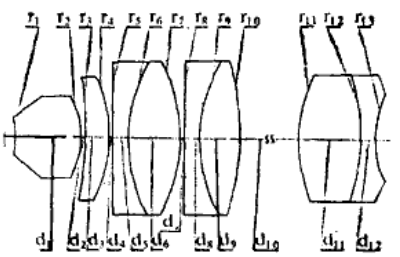
注：当 l ＝－W.D. 时，β ＝－40.39。

编号：10-05-053

平像场复消色差高倍显微镜物镜

E.F.L＝1　B.F.L＝37.936　N.A ＝0.7　L_p＝0　η＝0.07**　β＝－40

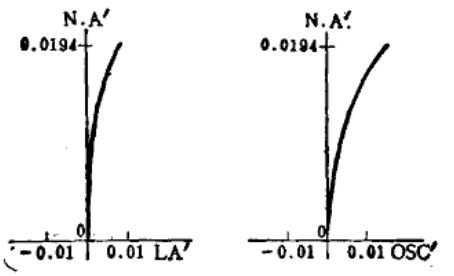
W.D.＝0.2048

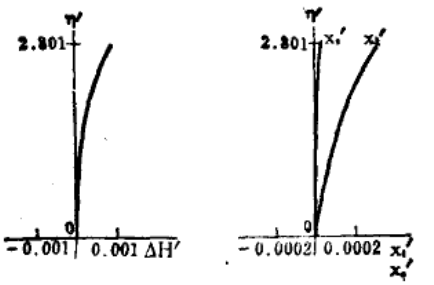


序号	r	d	n	v	序号	r	d	n	v
1	－0.6174	1.1273	1.80400	46.6	8	11.9166	0.2415	1.80740	35.4
2	－1.0928	0.0258			9	2.4781	0.6823	1.49250	81.9
3	－7.9397	0.4025	1.49250	81.9	10	－5.4291	4.2798		
4	－1.5078	0.0263			11	2.2353	1.0278	1.72000	42.7
5	225.0088	0.2369	1.57501	31.3	12	－4.6592	0.2486	1.61484	51.8
6	2.1418	0.8817	1.43389	95.2	13	1.3126			
7	－2.1959	0.0373							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00536	0.00102	0.00021	－0.00020	0.00166	0.0699	1.50%

N.A′或η′%	LA′	OSC′	ΔH′	x_i'	x_s'	$x_i'-x_s'$	K_{f1}'	$K_{f0.7}'$
100	0.0071	0.0157	0.0010	0.00034	0.00003	0.00031	0.1295	0.0028
70	0.0028	0.0061	0.0003	0.00017	0	0.00017	0.0146	0.0016





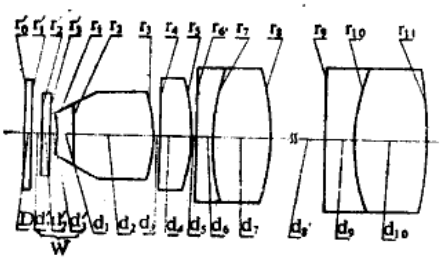
注：当 l ＝－W.D.时，β ＝－40.02。

编号：10-05-054

复消色差高倍显微镜物镜

E.F.L=1.003　B.F.L=38.4　N.A.=0.65　L_p=0　η=0.07**　β=−40

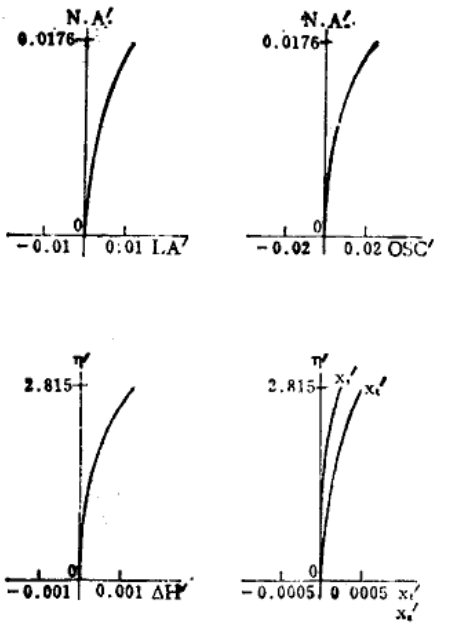
W.D.=0.1605



序号	r	d	n	v	序号	r	d	n	v
1	−0.333	0.0971	1.785	26	7	1.340	0.3270	1.434	95
2	−4.260	0.4410	1.883	41	8	−1.210	2.3700		
3	−0.672	0.0242			9	84.800	0.1690	1.744	45
4	−11.300	0.1810	1.883	41	10	1.610	0.4010	1.510	63
5	−1.160	0.0242			11	−2.230			
6	11.500	0.0970	1.785	26					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00873	0.00124	0.00016	0.00005	0.00177	0.070	1.74%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0104	0.0233	0.0012	0.00046	0.00024	0.00022	0.0319	0.0039
70	0.0046	0.0082	0.0004	0.00024	0.00011	0.00013	0.0129	0.0022



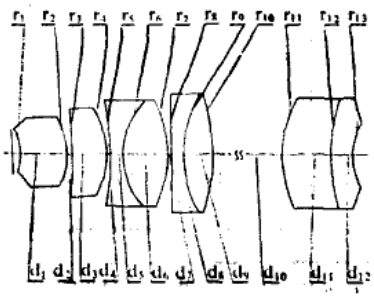
注：当 l = −W.D.时，β = −40.21。

编号：10-05-055

平像场消色差高倍显微镜物镜

E.F.L＝1　B.F.L＝38.101　N.A.＝0.7　L_p＝0　η＝0.07**

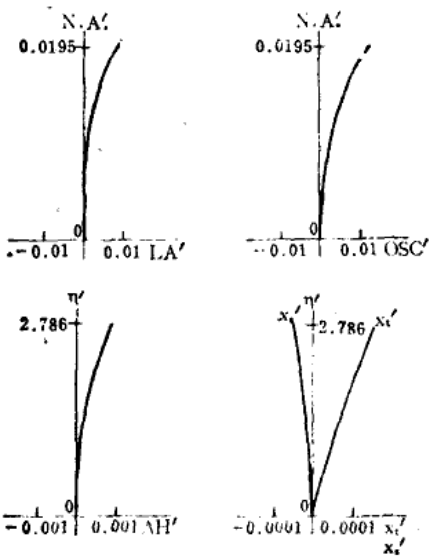
β＝－40　W.D.＝0.1935



序号	r	d	n	v	序号	r	d	n	v
1	－0.6362	1.0847	1.78472	25.71	8	75.5106	0.2462	1.78470	26.22
2	－1.0336	0.0246			9	2.3155	0.6402	1.49700	81.60
3	－15.5604	0.7229	1.49700	81.60	10	－3.7586	3.9990		
4	－1.7302	0.0246			11	2.0982	1.0746	1.78300	36.15
5	－8.6105	0.2997	1.52130	52.55	12	3.3781	0.4765	1.61340	43.84
6	1.8391	0.9229	1.49700	81.60	13	1.2170			
7	－2.6282	0.0345							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	$QP(1\omega)$
	0.00594	0.00096	0.00017	－0.00025	0.00140	0.070	1.26%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0071	0.0126	0.0008	0.00016	－0.00005	0.00021	－0.0224	0.0020
70	0.0028	0.0051	0.0003	0.00009	－0.00003	0.00012	0.0022	0.0012



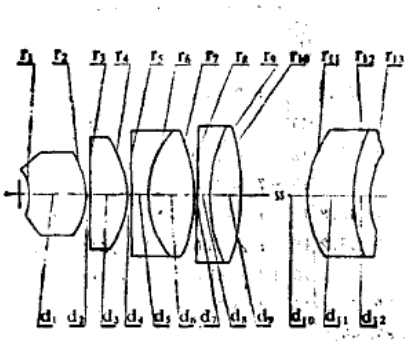
注：当 l ＝－W.D 时，β＝－39.79。

编号：10-05-056

平像场消色差高倍显微镜物镜

E.F.L=0.9998　B.F.L=38　N.A.=0.7　L_p=0　η=0.07　β=−40**

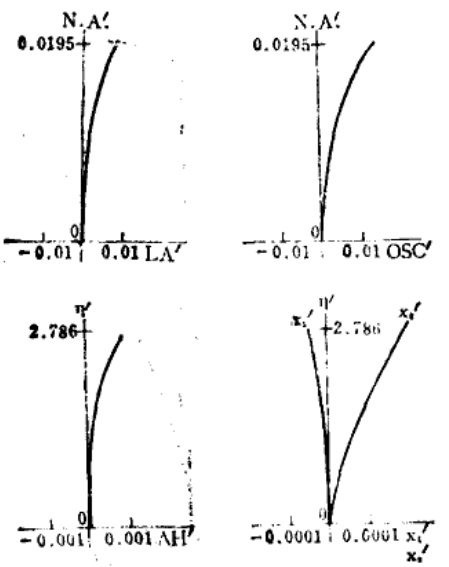
W.D.=0.193



序号	r	d	n	v	序号	r	d	n	v
1	−0.6378	1.1615	1.78172	25.71	8	61.0911	0.2458	1.80518	25.43
2	−1.0741	0.0246			9	2.2709	0.6391	1.49700	81.60
3	−22.5264	0.7707	1.49700	81.60	10	−4.0145	4.0669		
4	−1.8590	0.0246			11	1.9014	0.9361	1.74077	27.29
5	−80.9474	0.3532	1.52682	51.12	12	2.1142	0.3427	1.61340	43.84
6	1.8277	0.9712	1.49700	81.60	13	1.2113			
7	−2.9691	0.0344							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00593	0.00101	0.00019	−0.00025	0.00140	0.0699	1.26%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0071	0.0134	0.0008	0.00020	−0.00004	0.00024	−0.0085	0.0022
70	0.0028	0.0054	0.0003	0.00011	−0.00002	0.00013	0.0036	0.0013



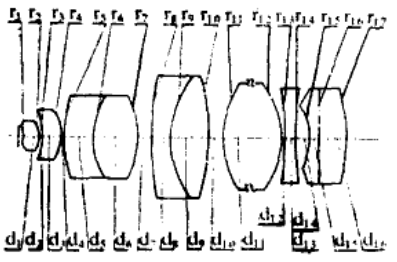
注。当 l = −W.D.时，β = −39.80。

编号：10-05-057

复消色差高倍显微镜物镜

E.F.L=0.9947　B.F.L=37.1216　N.A.=0.93　L_p=0　η=0.07**

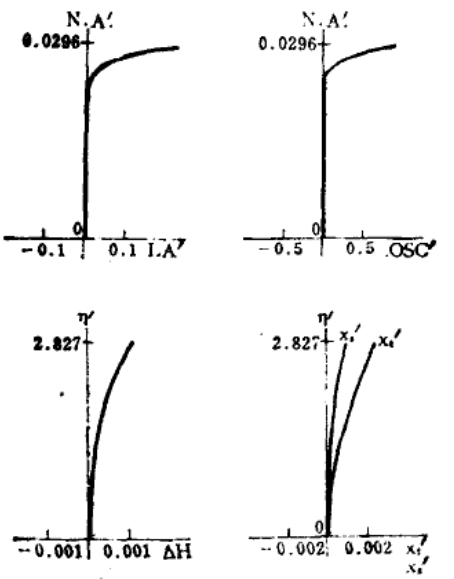
β=−40　W.D.=0.0852



序号	r	d	n	v	序号	r	d	n	v
1	−0.3056	0.4044	1.60738	56.8	10	−5.9681	0.3741		
2	−0.5293	0.0283			11	2.5210	2.9120	1.43389	95.2
3	−1.5101	0.4656	1.43389	95.2	12	−2.1541	0.0283		
4	−0.6593	0.0283			13	−7.5877	0.2743	1.46450	65.9
5	3.0642	0.7257	1.61340	43.8	14	11.3984	0.3329		
6	1.5185	1.1031	1.43389	95.2	15	−1.2525	0.2260	1.61800	63.4
7	−1.7353	0.3200			16	62.4181	0.6451	1.78472	25.7
8	13.3587	0.4590	1.75520	27.5	17	−3.6974			
9	2.5928	0.9002	1.43389	95.2					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0426	0.0077	0.0018	0.0001	0.0026	0.0699	1.69%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.227	1.0000	0.0011	0.0022	0.0008	0.0014	−0.5051	−0.4031
70	0.011	0.0405	0.0004	0.0010	0.0003	0.0007	1.4812	−0.0580



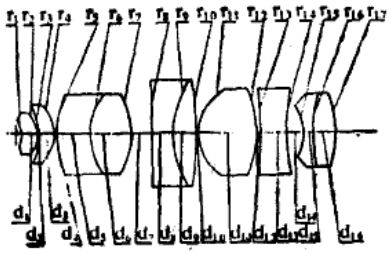
注：当 l = −W.D. 时，β = −40.39。

编号：10-05-058

复消色差高倍显微镜物镜

E.F.L=1.005　B.F.L=87.263　N.A.=0.93　L_p=0　η=0.07　β=−40**

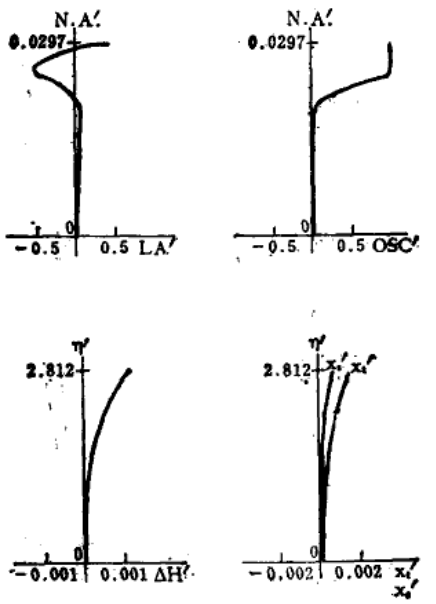
W.D.=0.0734



序号	r	d	n	v	序号	r	d	n	v
1	−0.2676	0.3834	1.60738	56.8	10	−10.0531	0.0255		
2	−0.4477	0.0255			11	1.9251	1.4688	1.43389	95.2
3	−1.2424	0.3523	1.43389	95.2	12	−2.3870	0.0255		
4	−0.5887	0.0255			13	−10.6443	0.7092	1.43389	95.2
5	2.4805	0.8304	1.61340	43.8	14	6.0313	0.4188		
6	1.3307	1.0845	1.43389	95.2	15	−0.9824	0.2472	1.61800	63.4
7	−1.4957	0.4962			16	3.7001	0.5692	1.78300	36.2
8	35.5072	0.5608	1.75520	27.5	17	−2.3995			
9	2.2546	0.5498	1.43389	95.2					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0388	0.0062	0.0015	0.000002	0.0030	0.0699	1.69%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{f1}'	$K_{f0.7}'$
100	0.403	1.000	0.0011	0.0014	0.0006	0.0008	0.7217	0.0799
70	0.009	0.043	0.0004	0.0007	0.0003	0.0004	−0.7029	0.0445



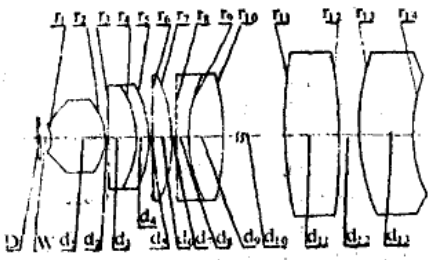
注：当 | = −W.D.时，β = −40.17。

编号：10-05-059

平像场复消色差高倍显微镜物镜

E.F.L=4.021　B.F.L=146.807　N.A.=0.65　L_p=0　η=0.225

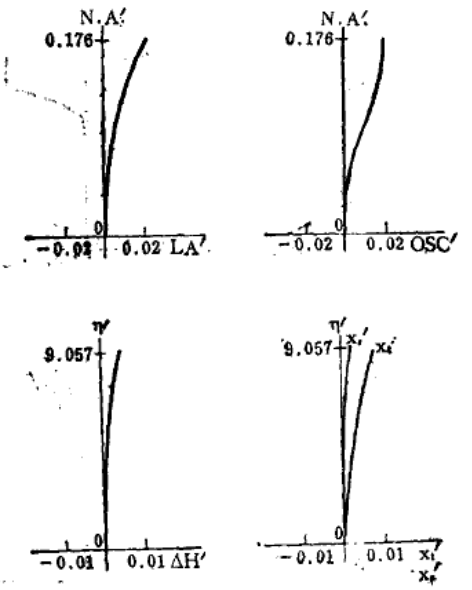
β=−40　W.D.=0.666



序号	r	d	n	v	序号	r	d	n	v
1	−1.110	2.71	1.51685	64.1	8	229.000	0.53	1.67309	32.1
2	−2.140	0.08			9	6.900	1.60	1.43386	94.9
3	−178.000	1.38	1.43386	94.9	10	−14.500	22.20		
4	−3.180	0.63	1.59492	39.2	11	45.478	2.64	1.62183	57.0
5	−5.080	0.13			12	−40.500	1.00		
6	∞	0.90	1.62324	58.0	13	10.390	2.64	1.74090	27.7
7	−8.370	0.16			14	6.730			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0189	0.0084	0.0045	−0.0012	0.0086	0.2249	2.61%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.021	0.0215	0.005	0.0088	0.0030	0.0058	−0.0847	0.0039
70	0.010	0.0127	0.002	0.0053	0.0015	0.0038	−0.0034	0.0056

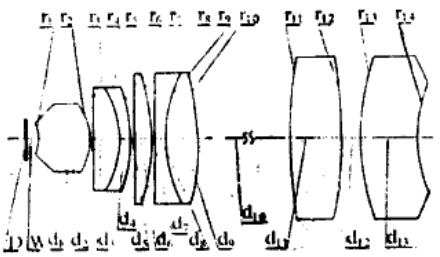


注：当1=−W.D.时，β=−40.25。

编号：10-05-060

平像场复消色差高倍显微镜物镜

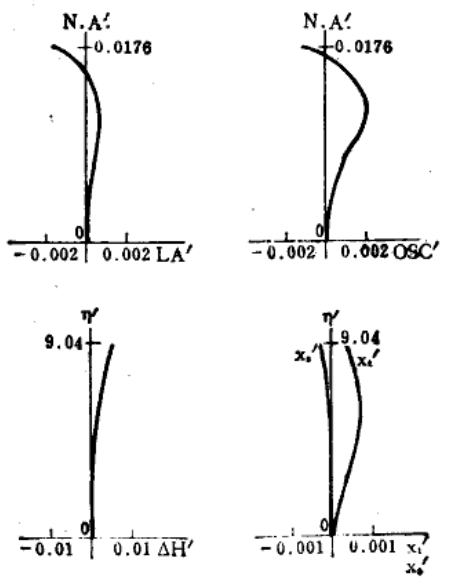
E.F.L＝4.099　B.F.L＝149.366　N.A.＝0.65　L_p＝0　η＝0.225　β＝－40
W.D.＝0.62



序号	r	d	n	v	序号	r	d	n	v
1	－1.050	2.56	1.51685	64.1	8	230.000	0.50	1.67309	32.1
2	－2.020	0.08			9	6.400	1.50	1.43386	94.9
3	－167.282	1.29	1.43386	94.9	10	－14.290	21.83		
4	－3.000	0.59	1.59492	39.2	11	42.672	2.48	1.61942	60.0
5	－4.800	0.12			12	－36.000	0.94		
6	∞	0.84	1.62324	58.0	13	9.810	2.80	1.74090	27.7
7	－8.056	0.15			14	6.400			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0014	0.0019	0.0013	－0.0013	0.0074	0.225	2.24%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.0017	－0.0013	0.0050	0.00029	－0.00016	0.00045	－0.2996	－0.0083
70	0.0004	0.0020	0.0018	0.00077	－0.00002	0.00079	－0.0323	－0.0019



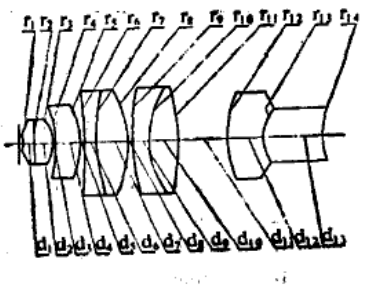
注：当 l＝－W.D.时，β＝40.17。

编号：10-05-061

消色差高倍显微镜物镜

E.F.L=1.397　B.F.L=109.595　N.A.=0.85　L_p=0　η=0.125　β=−80

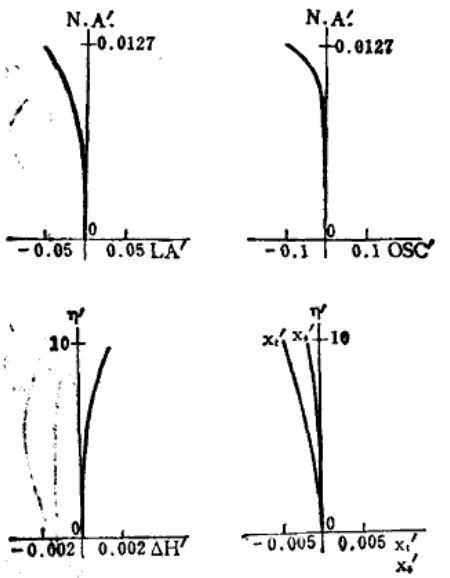
W.D.=0.16918



序号	r	d	n	v	序号	r	d	n	v
1	−0.983	0.5380	1.588	61.2	8	−4.086	0.2022		
2	∞	0.8980	1.514	70.0	9	12.390	0.8090	1.720	29.3
3	−1.267	0.0101			10	3.871	1.4000	1.514	70.0
4	−4.664	1.2860	1.514	70.0	11	−8.208	2.4190		
5	−2.164	0.1715			12	4.894	1.7880	1.651	58.4
6	−36.125	0.6067	1.720	29.3	13	1.962	2.9530	1.514	70.0
7	10.161	1.5130	1.514	70.0	14	2.937			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	−0.0572	−0.0093	−0.0032	0.0004	0.0028	0.1249	1.08%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.067	−0.102	0.0013	−0.0046	−0.0013	−0.0033	5	−0.018
70	−0.016	−0.020	0.0004	−0.0022	−0.0006	−0.0016	−0.064	−0.011

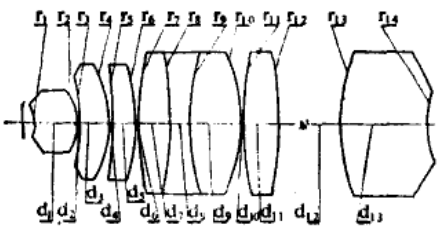


注：当 l = −W.D. 时，β = −80.02。

编号：10-05-062

平像场复消色差高倍显微镜物镜

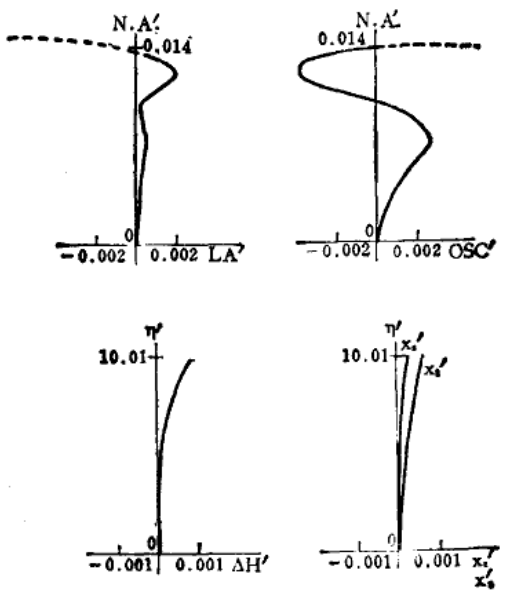
E.F.L＝2.593　B.F.L＝202.572　N.A.＝0.9　L_p＝0　η＝0.125　β＝－80
W.D.＝0.6753



序号	r	d	n	v	序号	r	d	n	v
1	－1.591	2.42	1.5163	64.0	8	－23.588	1.04	1.8052	25.5
2	－2.030	0.05			9	12.366	2.78	1.4339	95.2
3	－6.760	1.68	1.5927	35.4	10	－8.040	0.05		
4	－4.672	0.05			11	24.780	1.90	1.4339	95.2
5	－25.672	1.25	1.4339	95.2	12	－24.780	9.41		
6	－7.762	0.18			13	8.458	4.83	1.5687	63.1
7	24.780	1.70	1.4339	95.2	14	4.184			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0068	0.0039	0.0005	0.0003	0.0018	0.1249	0.64%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}	$K_{T0.7}$
100	－0.6111	1.000	0.0008	0.0006	0.0003	0.0003	0.3840	－0.0039
70	0.0001	0.001	0.0002	0.0003	0.0001	0.0002	0.4743	－0.0021



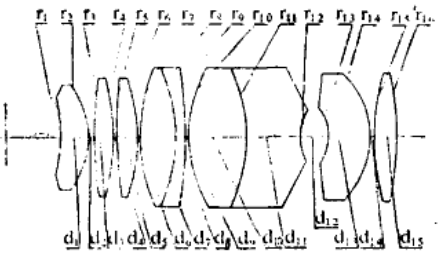
注：当 l ＝－W.D.时，β＝－80.09。

编号：10-05-063

长工作距离复消色差高倍显微镜物镜

E.F.L=5.514　　B.F.L=208.063　　N.A.=0.55　　L_p=0

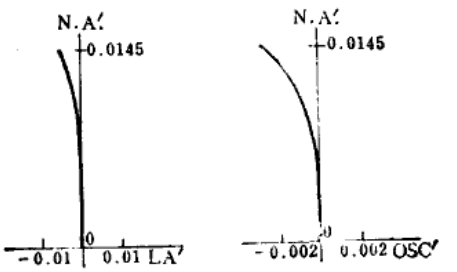
η=0.375　　β=−40　　W.D.=3.884

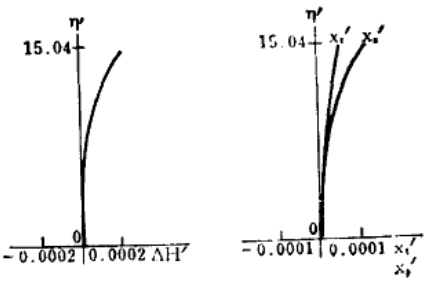


序号	r	d	n	ν	序号	r	d	n	ν
1	−7.650	1.80	1.56384	60.7	9	−35.780	0.20		
2	−4.740	0.20			10	6.160	3.50	1.48656	84.5
3	25.050	1.20	1.48656	84.5	11	−9.460	3.40	1.67270	32.1
4	−16.420	0.20			12	2.656	1.53		
5	39.510	1.30	1.43389	95.2	13	−2.463	2.70	1.61800	63.4
6	−9.830	0.13			14	−4.520	0.16		
7	10.930	2.11	1.43389	95.2	15	12.910	1.24	1.48656	84.5
8	−9.490	0.64	1.61340	43.8	16	−15.610			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	−0.001397	0.000067	0.000030	0.000002	0.000186	0.375	0.06%

N.A.′或η′%	LA′	OSC′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{t_1}	$K'_{t_{0.7}}$
100	−0.0063	−0.0029	0.00023	0.00005	0.00011	−0.00006	0.1951	−0.0008
70	−0.0009	−0.0006	0.00008	0.00002	0.00003	−0.00001	0.0282	−0.0014





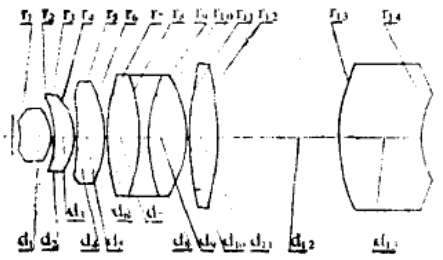
注：当 l = −W.D. 时，β = −40.10。

编号：10-05-064

复消色差高倍显微镜物镜

E.F.L=2.113　　B.F.L=206.561　　N.A.=0.9　　L_p=0

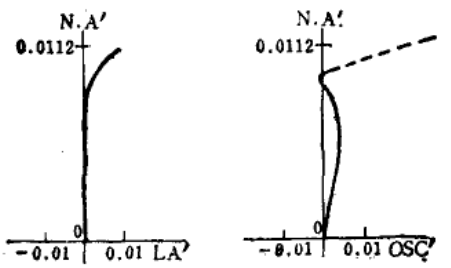
η=0.09　　β=−100　　W.D.=0.4952

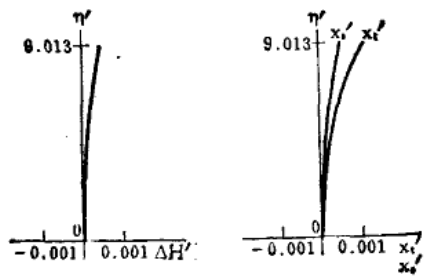


序号	r	d	n	v	序号	r	d	n	v
1	−1.262	1.89	1.516	64.2	8	−10.054	0.64	1.834	37.2
2	−1.608	0.07			9	9.253	2.35	1.434	95.2
3	−4.661	1.28	1.486	81.8	10	−6.560	0.12		
4	−2.978	0.10			11	19.900	1.65	1.434	95.2
5	−24.870	1.60	1.434	95.2	12	−19.900	7.56		
6	−5.670	0.12			13	8.619	5.05	1.486	81.8
7	14.054	1.93	1.434	95.2	14	3.802			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00773	0.00415	0.00082	0.00042	0.00124	0.0899	0.61%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0080	1.0000	0.00054	0.0010	0.0004	0.0006	0.7998	−0.0024
70	0.0001	0.0036	0.00019	0.0005	0.0002	0.0003	0.0641	−0.0009





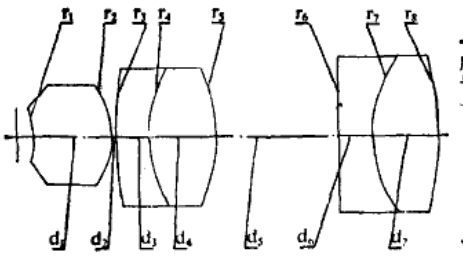
注：当 l = −W.D 时，β = −100.14。

编号：10-05-065

三组元高倍显微镜物镜

E.F.L＝1　　B.F.L＝39.235　　N.A.＝0.66　　L_p＝0

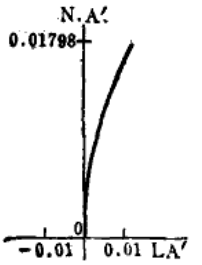
η＝0.07**　　β＝－40　　W.D.＝0.1681

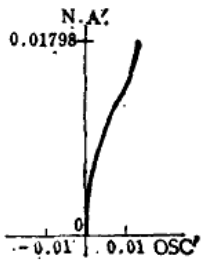


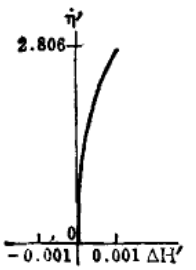
序号	r	d	n	v	序号	r	d	n	v
1	－0.6155	0.7637	1.69669	56.13	5	－1.7914	1.2152		
2	－0.6604	0.0467			6	9.2148	0.3273	1.78162	37.08
3	4.3553	0.3273	1.78446	25.75	7	1.3725	0.6546	1.50129	56.39
4	1.2850	0.6546	1.69669	56.13	8	－3.3821			

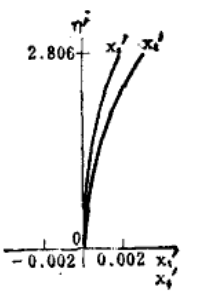
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.01074	0.00136	0.00085	0.00084	0.00136	0.0699	1.34%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0125	0.0139	0.0009	0.0030	0.0016	0.0014	0.0038	0.0020
70	0.0058	0.0073	0.0003	0.0015	0.0008	0.0007	0.0032	0.0014









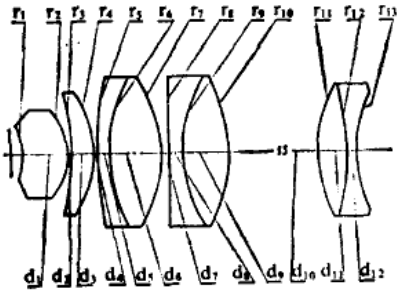
注，当 l＝－W.D.时，β＝－40.09。

编号：10-05-066

高 倍 显 微 镜 物 镜

E.F.L=5.065　　B.F.L=194.31　　N.A.=0.65　　L_p=0

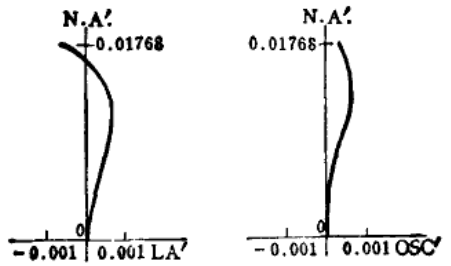
η=0.25　　β=−40　　W.D.=0.716

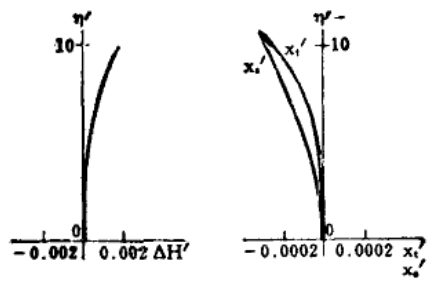


序号	r	d	n	v	序号	r	d	n	v
1	−2.166	3.92	1.77370	49.4	8	−121.770	0.88	1.80440	39.6
2	−3.770	0.25			9	8.806	4.57	1.48656	84.5
3	−28.341	1.68	1.48656	84.5	10	−11.865	14.54		
4	−6.864	0.28			11	8.300	2.29	1.72000	50.3
5	56.400	0.88	1.57501	41.5	12	−27.195	0.78	1.62012	49.6
6	9.205	4.33	1.48656	84.5	13	5.803			
7	−8.871	0.56							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00350	0.00063	0.00017	−0.00013	0.00281	0.2498	0.77%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.0006	0.0003	0.0019	−0.00029	−0.00029	0	−0.0019	0
70	−0.0007	0.0006	0.0006	−0.00004	−0.00013	0.00009	−0.0009	0.0001





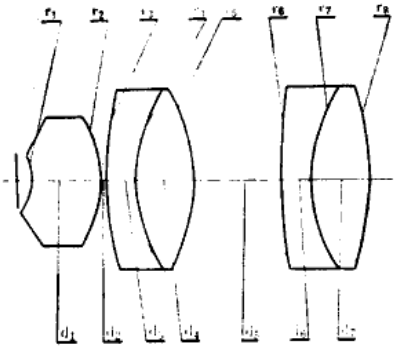
注：当 l = −W.D.时，β = −40.02。

编号：10-05-067

三组元高倍显微镜物镜

E.F.L＝1　　B.F.L＝39.545　　N.A.＝0.66　　L_p＝0

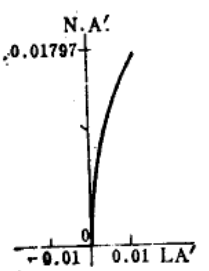
η＝0.07**　　β＝－40　　W.D.＝0.1705

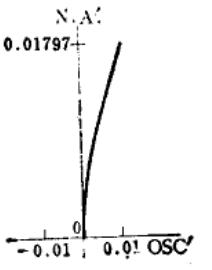


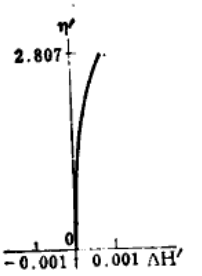
序号	r	d	n	v	序号	r	d	n	v
1	－0.5720	0.7659	1.78833	50.47	5	－1.6057	1.0865		
2	－0.7315	0.0468			6	11.4873	0.3282	1.80784	40.74
3	4.1284	0.3282	1.80491	25.42	7	1.3057	0.6565	1.52241	59.50
4	1.2737	0.6565	1.69669	56.13	8	－3.2142			

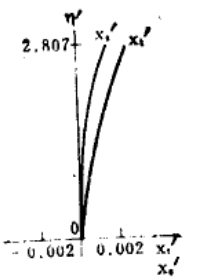
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.01071	0.00097	0.00076	0.00059	0.00115	0.0699	1.13%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0117	0.0103	0.0007	0.0025	0.0012	0.0013	－0.0034	0.0015
70	0.0059	0.0059	0.0002	0.0013	0.0006	0.0007	－0.0004	0.0011









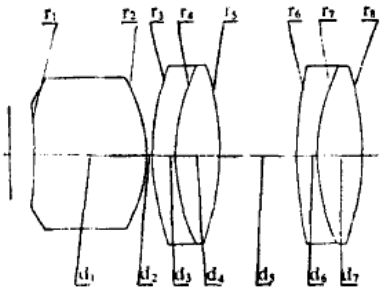
注：当 l ＝－W.D.时，β＝－40.10。

编号：10-05-068

三组元高倍显微镜物镜

E.F.L=1.0048　　B.F.L=40.15　　N.A.=0.65　　$L_p=0$

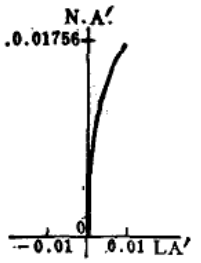
$\eta=0.07^{**}$　　$\beta=-40$　　W.D.=0.2213

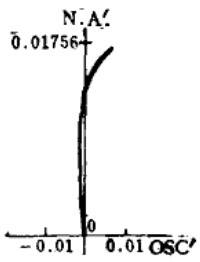


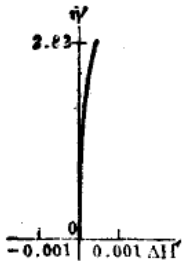
序号	r	d	n	v	序号	r	d	n	v
1	-4.498	0.949	1.78645	50.2	5	-2.151	0.660		
2	-0.926	0.023			6	4.399	0.186	1.80610	40.8
3	2.564	0.186	1.78470	25.7	7	1.318	0.384	1.49780	66.8
4	1.349	0.391	1.48660	84.5	8	-2.587			

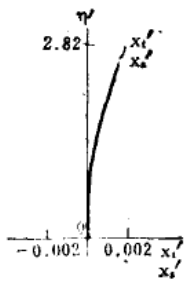
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.008410	-0.000400	-0.000002	0.001866	0.000556	0.070	0.56%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_T'	$K_{T0.7}'$
100	0.0095	0.0070	0.0003	0.0018	0.0018	0	0.0072	0.0005
70	0.0040	-0.0001	0.0001	0.0009	0.0009	0	0.0047	0.0003









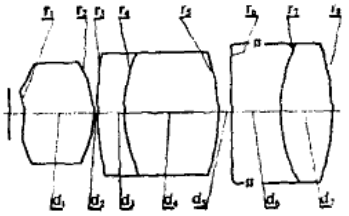
注：当 f′=-W.D.时，β=-40.28。

编号：10-05-069

三组元高倍显微镜物镜

E.F.L＝1.0035　　B.F.L＝39.856　　N.A.＝0.66　　L_p＝0

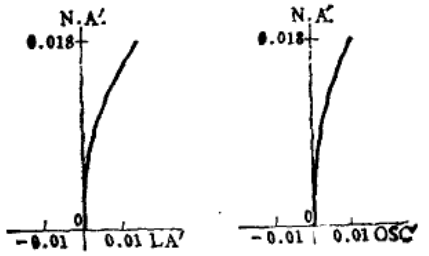
η＝0.07**　　β＝－40　　W.D.＝0.1707

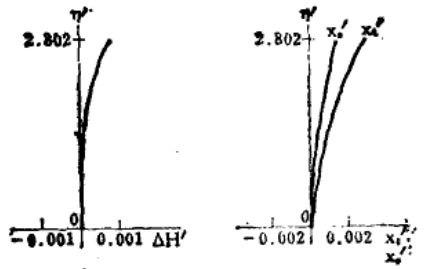


序号	r	d	n	v	序号	r	d	n	v
1	－0.6213	0.8083	1.78833	50.47	5	－1.8601	0.1388		
2	－0.7305	0.0469			6	9.4364	1.3136	1.80785	40.72
3	4.2939	0.3336	1.78446	25.75	7	1.3531	0.5853	1.47063	67.33
4	1.2570	1.1371	1.69669	55.68	8	－3.2754			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.01082	0.00093	0.00087	0.00062	0.00107	0.0699	1.05%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0139	0.0098	0.0007	0.0029	0.0014	0.0015	0.0020	0.0013
70	0.0061	0.0052	0.0002	0.0015	0.0007	0.0008	0.0019	0.0010





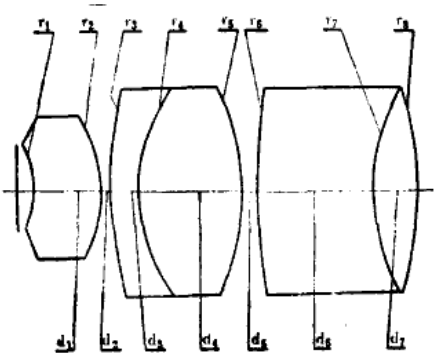
注，当 l ＝－W. D.时，β＝－40.03。

编号：10-05-070

三组元高倍显微镜物镜

E.F L=4.5759　　B.F.L=181.619　　N.A.=0.66　　L_p=0

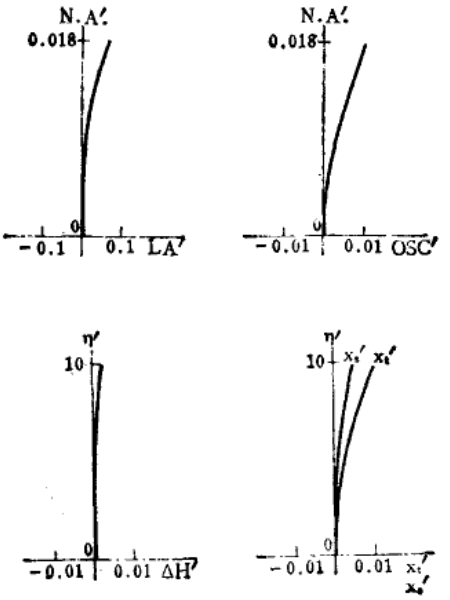
η=0.25　　β=−40　　W.D.=0.7783



序号	r	d	n	v	序号	r	d	n	v
1	−2.833	3.686	1.78833	50.47	5	−8.482	0.633		
2	−3.331	0.214			6	43.030	5.990	1.80785	40.72
3	19.580	1.521	1.78446	25.75	7	6.170	2.669	1.47063	67.33
4	5.732	5.185	1.69669	55.68	8	−14.936			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0492	0.0033	0.0024	0.0017	0.0023	0.249	0.65%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}	$K_{T0.7}$
100	0.063	0.0098	0.0016	0.008	0.003	0.005	0.0093	0.0051
70	0.028	0.0052	0.0005	0.004	0.002	0.002	0.0075	0.0038



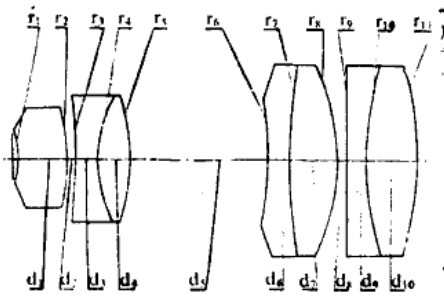
注：当 I = − W D.时，β = −40。

编号：10-05-071

高倍显微镜物镜

E.F.L＝1.0015　　B.F.L＝32.096　　N.A.＝0.4　　L_p＝0

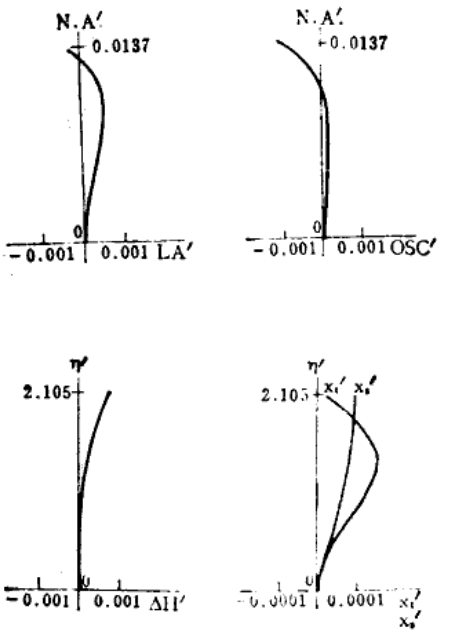
η＝0.07**　　β＝－30**　　W.D.＝0.0103



序号	r	d	n	v	序号	r	d	n	v
1	－0.3625	0.2089	1.69024	30.9	7	2.6705	0.2120	1.61702	54.9
2	－0.7973	0.0475			8	－0.7973	0.0316		
3	－2.0496	0.0949	1.64904	33.8	9	5.8278	0.0949	1.64904	33.8
4	0.4049	0.1487	1.52373	58.6	10	1.3409	0.2120	1.52373	58.6
5	－0.7032	0.5854			11	－1.6080			
6	－1.6396	0.0949	1.64904	33.8					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000911	0.000038	0.000054	0.000031	0.000590	0.0699	1.07%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.0003	－0.00121	0.0007	0.00001	0.00009	－0.00008	－0.00058	0.00001
70	0.0006	0.00004	0.0002	0.00014	0.00008	0.00006	－0.00044	－0.00002



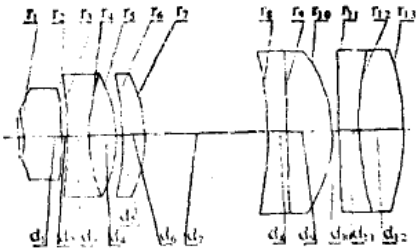
注：当 l ＝－W.D.时，β＝－30.07。

编号：10-05-072

高 倍 显 微 镜 物 镜

E.F.L＝1.0112　　B.F.L＝37.116　　N.A.＝0.4　　L_p＝0

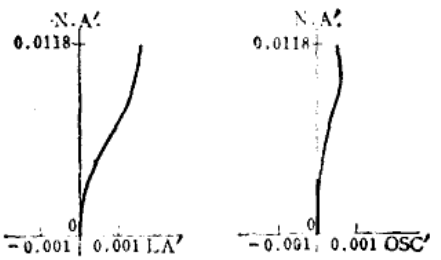
η＝0.07**　　β＝−35**　　W.D.＝0.01896

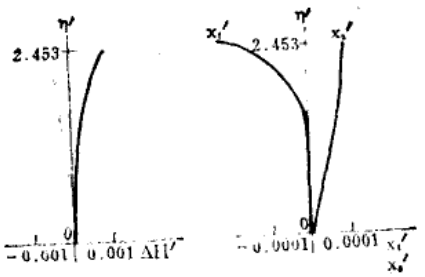


序号	r	d	n	v	序号	r	d	n	v
1	−0.3584	0.1915	1.64752	33.88	8	−1.6152	0.0958	1.66429	35.88
2	−1.8999	0.0319			9	4.2959	0.2394	1.51814	58.96
3	−2.2089	0.0958	1.64752	33.88	10	−0.8205	0.0319		
4	0.7321	0.1436	1.51671	61.20	11	7.6910	0.0958	1.66429	35.88
5	−0.5671	0.0319			12	1.8135	0.2394	1.51733	52.16
6	−1.3244	0.1149	1.51671	61.20	13	−1.5825			
7	−0.6875	0.6010							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.001089	0.000055	−0.000002	0.000075	0.000695	0.0699	1.20%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0015	0.0005	0.0008	−0.00025	0.00008	−0.00033	0	0.00010
70	0.0012	0.0004	0.0002	−0.00001	0.00007	−0.00008	−0.00004	0.00005





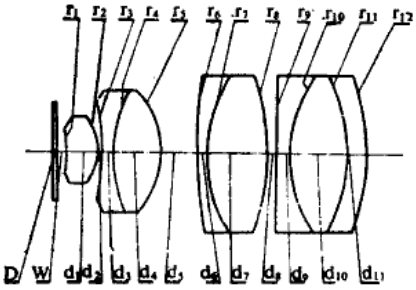
注：当 l＝−W D.时，β＝−35.04。

编号：10-05-073

复消色差高倍显微镜物镜

E.F.L＝4.3315　　B.F.L＝167.678　　N.A.＝0.85　　L_p＝0

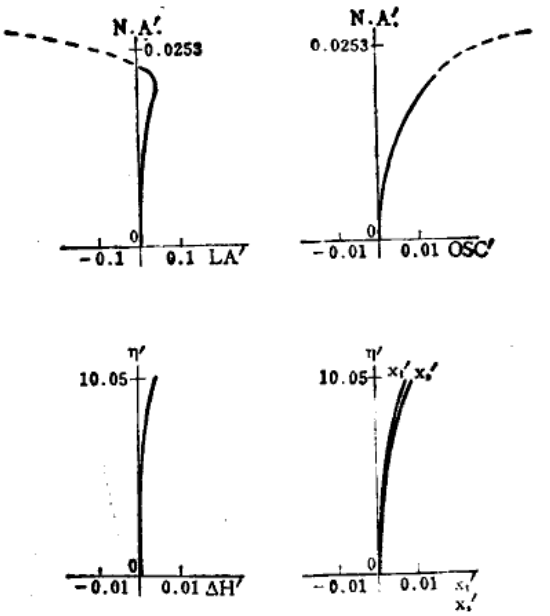
η＝0.25　　β＝－40　　W.D.＝0.438



序号	r	d	n	v	序号	r	d	n	v
1	－7.435	1.69	1.51633	64.1	7	5.460	3.15	1.67000	57.3
2	－1.714	0.14			8	－9.906	0.50		
3	－13.813	0.43	1.56883	56.0	9	∞	0.67	1.58900	48.6
4	5.135	2.72	1.43389	95.2	10	5.468	3.46	1.43389	95.2
5	－3.328	1.92			11	－5.468	1.06	1.54041	50.9
6	38.665	0.50	1.67000	51.7	12	－15.490			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.0752	0.0035	－0.0002	0.0166	0.0048	0.249	0.95%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－4.742	1.000	0.0023	0.0072	0.0078	－0.0006	0.0627	0.0239
70	0.024	0.008	0.0008	0.0037	0.0039	－0.0002	0.0012	0.0146



注：1.当 l＝－W.D.时，β＝－40.22；

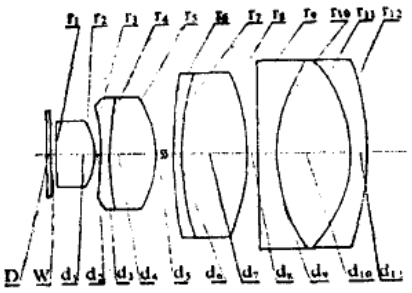
2.W.D.＝D/1.53＋W＝0.17/1.53＋0.327＝0.438。

编号：10-05-074

油浸复消色差高倍显微镜物镜

E.F.L＝4.3519　　B.F.L＝164.788　　N.A.＝1.00　　L_p＝0

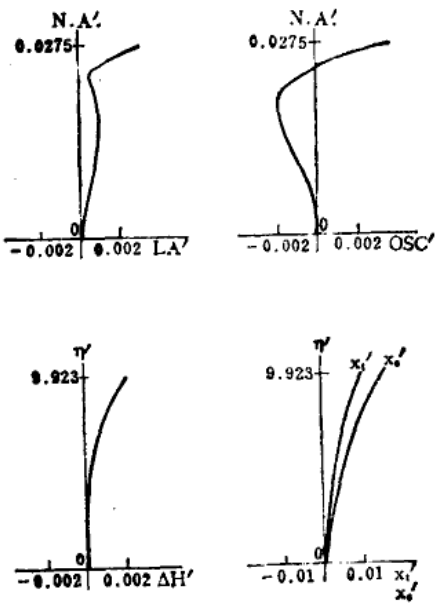
η＝0.25　　β＝－40　　W.D.＝0.42



序号	r	d	n	v	序号	r	d	n	v
0			1.51502	50.0	7	16.010	3.50	1.67000	57.3
1	∞	2.02	1.51633	64.1	8	－9.896	0.50		
2	－1.797	0.15			9	∞	0.67	1.58267	46.5
3	－11.518	0.41	1.56883	56.0	10	6.400	4.00	1.43389	95.2
4	19.980	2.73	1.43389	95.2	11	－5.729	0.68	1.54072	47.2
5	－3.703	1.88			12	－17.166			
6	37.900	0.50	1.67003	47.2					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0102	－0.0047	－0.0017	0.0215	0.0048	0.249	0.89%

N.A.′或η′%	LA′	OSC′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.0027	0.0037	0.0022	0.0096	0.0124	－0.0028	0.0046	－0.0010
70	0.0008	－0.0019	0.0007	0.0050	0.0062	－0.0012	0.0060	－0.0002



注：1.当 l ＝－W.D.时，β＝－39.69；

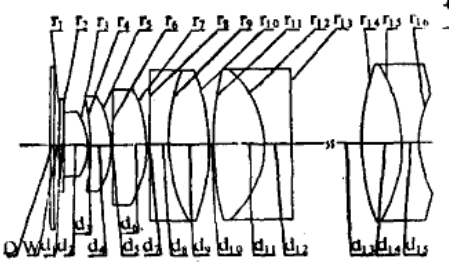
2.W.D.＝D＋W＝0.17＋0.25＝0.42。

编号：10-05 075

油浸高倍显微镜物镜

E.F.L＝1.7407　　B.F.L＝149.823　　N.A.＝1.30　　L_p＝0

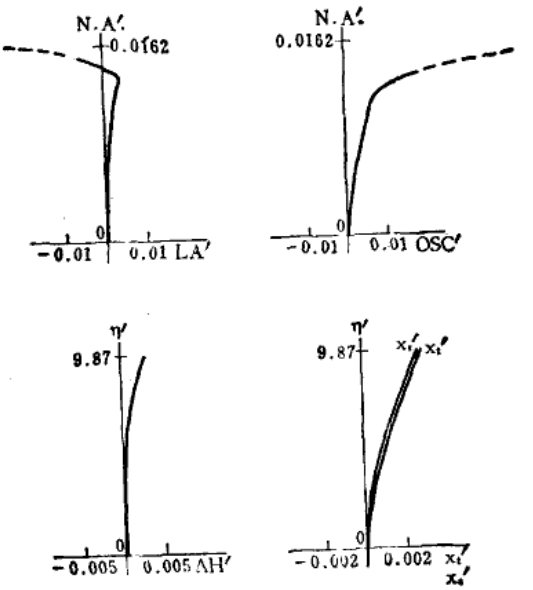
η＝0.102　　β＝－97　　W.D.＝0.475



序号	r	d	n	v	序号	r	d	n	v
0			1.51532	49.40	9	8.240	2.80	1.48523	81 61
1	∞	0.30	1.51823	58.96	10	－10.263	0.20		
2	∞	1.68	1.52542	64.55	11	20.569	3.50	1.48523	81.61
3	－1.519	0.09			12	－4.954	2.00	1.53172	48.87
4	－10.740	1.44	1.48523	81.61	13	151.056	25.18		
5	－3.630	0.07			14	15.314	2.50	1.67003	47.12
6	－81.810	2.39	1.48523	81.61	15	－7.980	1.10	1.51112	60.49
7	－6.450	0.07			16	5.870			
8	∞	1.30	1.75692	31.80					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0216	0.0086	0.0009	0.0086	0.0078	0.102	2.65%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.055	1.000	0.0027	0.0030	0.0029	0.0001	－6.17	－8.04
70	0.001	0.006	0.0009	0.0016	0.0014	0.0002	－3.27	0.04



注：1.当 l ＝－W.D.时，β＝－96.74；

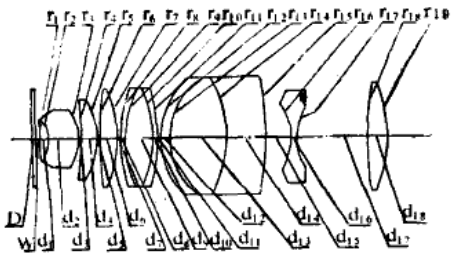
2.W.D.＝D＋W＝0.17＋0.305＝0.475。

编号：10-05-076

油浸平像场复消色差高倍显微镜物镜

E.F.L＝1.9068　　B.F.L＝143.347　　N.A.＝1.30　　L_p＝0

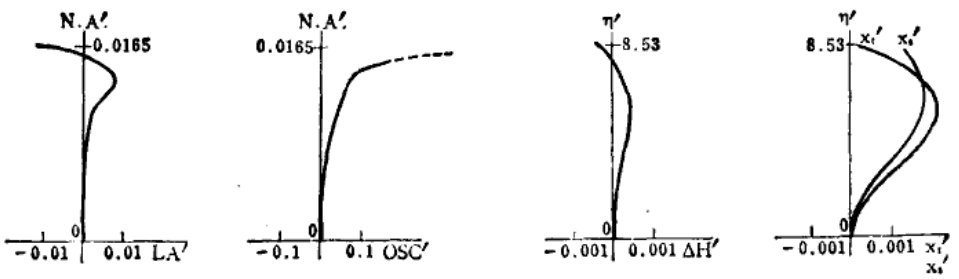
η＝0.09　　β＝－95**　　W.D.＝0.45



序号	r	d	n	ν	序号	r	d	n	ν
0			1.51510	50.00	10	－10.460	0.500	1.74000	28.16
1	∞	0.800	1.54000	50.90	11	－19.300	0.050		
2	－2.140	3.000	1.88069	41.00	12	6.280	0.800	1.74000	28.16
3	－3.066	0.040			13	4.580	5.700	1.43388	95.50
4	－21.600	1.680	1.43388	95.50	14	－10.600	4.000	1.74000	28.16
5	－5.670	0.040			15	－28.704	2.586		
6	41.000	1.750	1.43388	95.50	16	－3.176	0.400	1.80518	25.46
7	－10.230	0.050			17	2.815	7.000		
8	11.720	0.500	1.74000	28.16	18	33.000	1.900	1.69100	54.80
9	8.000	2.700	1.43388	95.50	19	－11.720			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.03182	0.02637	0.02090	－0.00004	0.01200	0.0899	－0.56%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K'_{T1}	$K'_{T0.7}$
100	－0.0115	1.000	－0.0005	0.0002	0.0013	－0.0011	－3.43	3.54
70	0.0021	0.021	0.0006	0.0022	0.0018	0.0004	－1.92	11.61



注：1 当 l＝－W D 时，β＝－94.78；

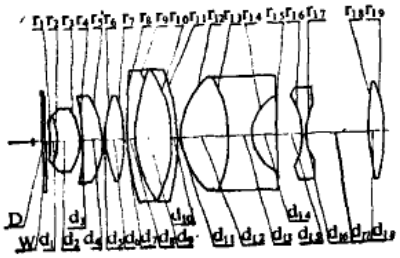
2.W D.＝D＋W＝0.17＋0.28＝0.45。

编号：10-05-077

油浸平像场复消色差高倍显微镜物镜

E.F.L＝1.8215　　B.F.L＝148.231　　N.A.＝1.30　　L_p＝0

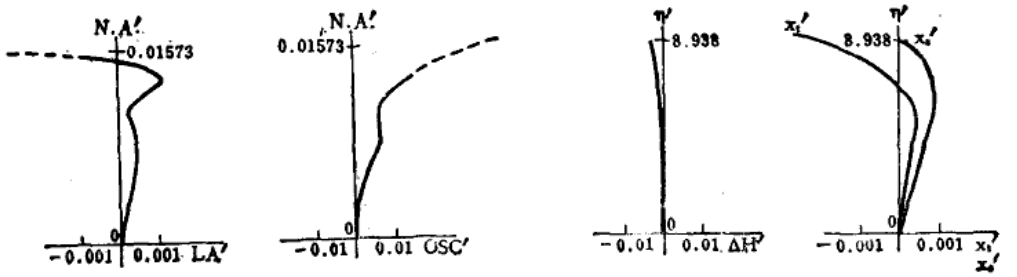
η＝0.09　　β＝－100　　W.D.＝0.55



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.0	10	－8.240	0.700	1.72151	29.3
1	－6.500	0.800	1.56384	60.8	11	－14.540	0.100		
2	－2.590	2.300	1.80279	46.8	12	5.808	4.800	1.43388	95.5
3	－2.590	0.050			13	－8.720	2.500	1.61340	43.9
4	－12.410	1.900	1.43388	95.5	14	2.429	2.400	1.61272	58.6
5	－4.862	0.050			15	－153.500	3.365		
6	66.500	1.900	1.43388	95.5	16	－3.024	0.300	1.72000	37.5
7	－8.428	0.100			17	2.680	6.300		
8	13.810	0.700	1.80280	39.0	18	25.100	1.500	1.62041	60.3
9	6.970	3.700	1.43388	95.5	19	－10.250			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0120	0.0124	0.0100	0.0008	0.0041	0.0899	－1.81

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.0002	1.000	－0.0016	－0.0028	0.0001	－0.0029	－3.89	－3.97
70	0.0003	0.006	0	0.0004	0.0008	－0.0004	－2.24	－0.34



注：1.当 l ＝－W.D.时，β＝－99.31；

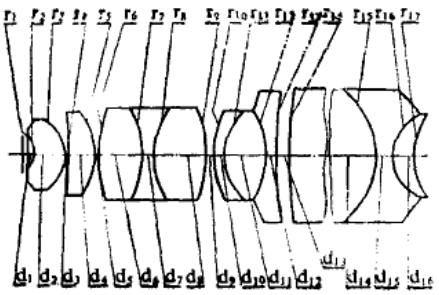
2.W.D.＝D＋W＝0.17＋0.38＝0.55。

编号：10-05-078

油浸复消色差高倍显微镜物镜

E.F.L＝1.5452　　B.F.L＝147.492　　N.A.＝1.30　　L_p＝0

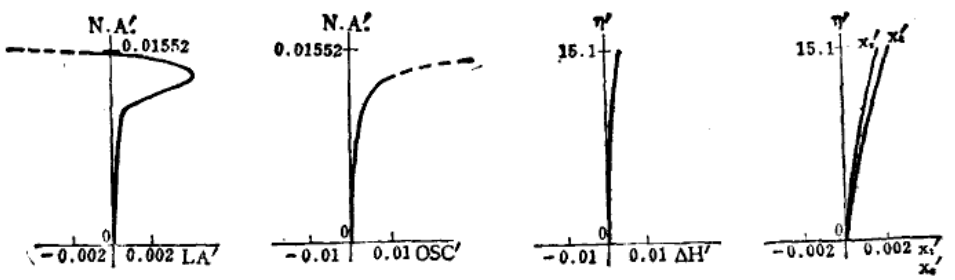
η＝0.15　　β＝－100　　W.D.＝0.28



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.0	9	－9.202	0.84		
1	∞	0.47	1.51118	51.0	10	7.222	0.80	1.68893	31.1
2	－0.533	2.61	1.78472	25.7	11	3.841	3.40	1.43389	95.2
3	－2.294	0.03			12	－5.352	0.87	1.67270	32.1
4	－28.509	2.19	1.69350	53.3	13	32.264	0.85		
5	－5.640	0.03			14	60.695	14.10	1.76182	26.6
6	9.225	3.62	1.67000	57.3	15	－5.532	1.17	1.45609	58.4
7	－7.904	0.88	1.66680	33.0	16	8.320	1.84	1.53256	45.9
8	5.018	4.15	1.43389	95.2	17	4.239			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0172	0.0073	0.0019	0.0039	0.0118	0.149	2.57%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K'_{T1}	$K'_{T0.7}$
100	－26	1.000	0.0038	0.0022	0.0017	0.0005	－4.20	－11.70
70	0.0005	0.002	0.0013	0.0014	0.0008	0.0006	2.49	－5.40



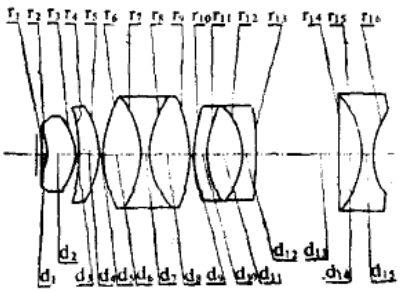
注：当 l＝－W.D.时，β＝－100.71。

编号：10-05-079

油浸平像场复消色差高倍显微镜物镜

E.F.L＝0.9988　　B.F.L＝95.634　　N.A.＝1.25　　L_p＝0　　η＝0.05**

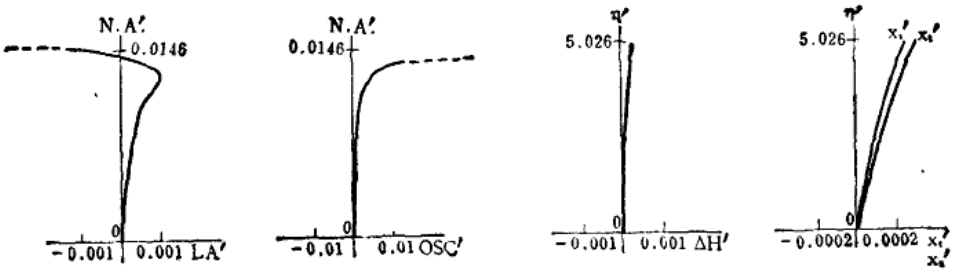
β＝－100　　W.D.＝0.1729



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.0	9	－5.1042	0.162		
1	∞	0.250	1.51633	64.2	10	7.5683	0.068	1.66680	33.0
2	－0.4367	1.740	1.88300	40.8	11	3.3999	2.346	1.43389	95.2
3	－1.5989	0.012			12	－2.8334	0.761	1.66680	33.0
4	－7.7218	1.341	1.72343	38.0	13	－13.8640	4.810		
5	－3.1472	0.075			14	∞	1.766	1.78472	25.7
6	5.7979	2.371	1.69350	50.8	15	－3.2040	0.561	1.50378	66.8
7	－4.8060	0.536	1.68893	31.1	16	2.8353			
8	3.3082	2.433	1.43389	95.2					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ∞）
	0.0055	0.0015	0.0002	0.0005	0.0010	0.049	0.67%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－25	1.0000	0.0003	0.00030	0.00025	0.00005	10.838	0.0029
70	0.0004	0.0014	0.0001	0.00018	0.00013	0.00005	1.309	0.0007



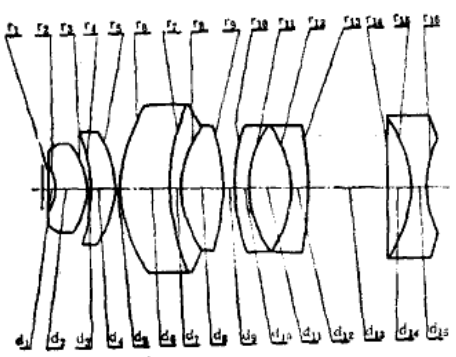
注：当 l＝－W.D. 时，β＝－100.52。

编号：10-05-080

油浸平像场复消色差高倍显微镜物镜

E.F.L＝1.0029　　B.F.L＝96.471　　N.A.＝1.25　　L_p＝0

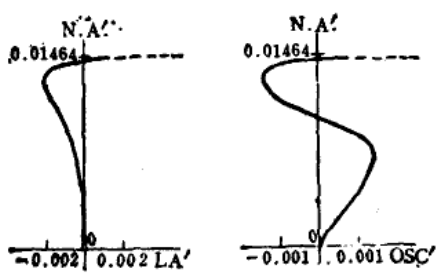
η＝0.05**　　β＝－100　　W.D.＝0.1826



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.0	9	－7.4580	0.282		
1	∞	0.251	1.51633	64.2	10	－6.0080	0.658	1.66680	33.0
2	－0.4345	1.674	1.88300	40.8	11	2.8313	1.974	1.43389	95.2
3	－1.5643	0.012			12	－3.2460	0.877	1.66680	33.0
4	－5.5216	1.328	1.72000	43.7	13	－11.1057	3.871		
5	－2.8270	0.075			14	912.5575	1.253	1.76182	26.6
6	4.8146	2.256	1.69350	50.8	15	－3.0105	0.557	1.50378	66.8
7	5.6249	0.533	1.68893	31.1	16	2.6978			
8	2.7522	2.106	1.43389	95.2					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ∞）
	0.0025	0.0020	0.0004	0.0005	0.0012	0.049	0.70%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.1647	1.0000	0.0003	0.0006	0.0003	0.0003	187	－0.00006
70	－0.0011	－0.0002	0.0001	0.0003	0.0001	0.0002	－21	－0.00073



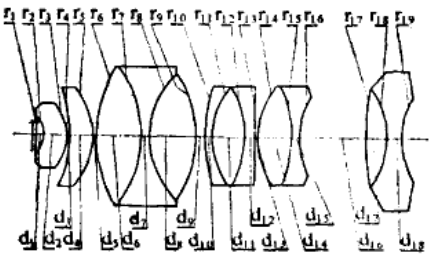
注：当 l＝－W.D.时，β＝－100.43。

编号：10-05-081

油浸大视场复消色差高倍显微镜物镜

E.F.L＝1　　B.F.L＝94.6　　N.A.＝1.37　　L_p＝0

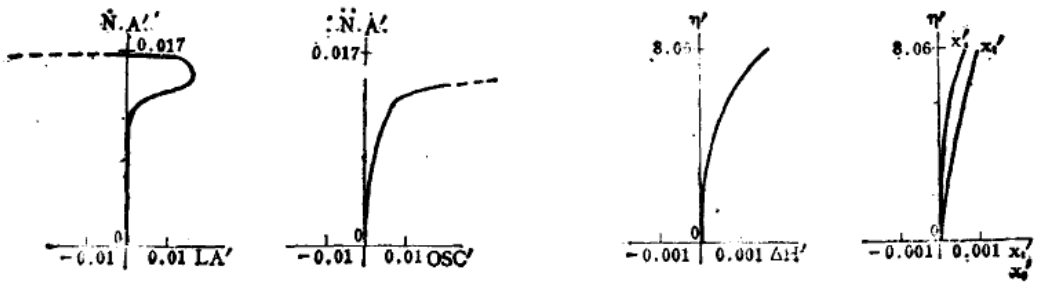
η＝0.08**　　β＝－100　　W.D.＝0.204



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.0	10	8.5190	0.6143	1.61340	43.8
1	∞	0.4484	1.51742	52.3	11	3.3477	2.6044	1.43389	95.2
2	－0.4607	1.7568	1.88300	40.8	12	－4.4238	0.6143	1.61340	43.8
3	－1.6929	0.0123			13	－102.7113	0.0614		
4	－7.0921	1.5910	1.72342	38.0	14	3.3200	2.2727	1.43389	95.2
5	－3.5319	0.0307			15	－5.0522	0.6143	1.61340	43.8
6	7.4939	3.0161	1.75500	52.3	16	3.6272	5.3931		
7	－6.6972	0.6143	1.74000	31.7	17	20.0448	1.4803	1.78472	25.7
8	4.3550	3.3170	1.43389	95.2	18	－3.8974	1.0934	1.50378	66.8
9	－5.9386	0.5344			19	3.1388			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0086	0.0043	0.0015	0.0011	0.0056	0.080	2.04%

N.A.′或η′/%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－16	1.0000	0.0016	0.0009	0.0006	0.0003	－0.041	－3.065
70	0.0008	0.0048	0.0005	0.0006	0.0003	0.0003	－0.007	－2.408



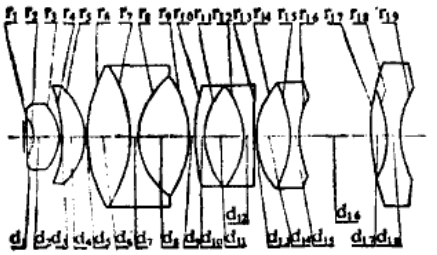
注，当 l＝－W.D.时，β＝－100.74。

编号：10-05-082

油浸大视场复消色差高倍显微镜物镜

E.F.L＝0.9998　　B.F.L＝94.2115　　N.A.＝1.40　　L_p＝0

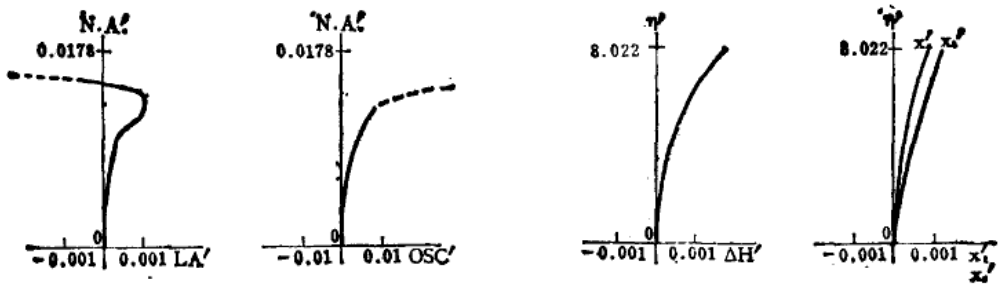
η＝0.08**　　β＝－100　　W.D.＝0.2005



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.0	10	8.2802	0.6039	1.61340	43.8
1	∞	0.4348	1.51472	52.3	11	3.4432	2.5362	1.43389	95.2
2	－0.4710	1.7271	1.88300	40.8	12	－3.9752	0.6039	1.61340	43.8
3	－1.6661	0.0121			13	－204.4505	0.0242		
4	－6.7476	1.5278	1.72342	38.0	14	3.2778	2.2343	1.43389	95.2
5	－3.4239	0.0121			15	－4.9215	0.6039	1.61340	43.8
6	7.4885	2.9650	1.75500	52.3	16	3.5664	5.0362		
7	－6.1582	0.6039	1.74000	31.7	17	17.8007	1.4553	1.78472	25.7
8	4.3237	3.2609	1.43389	95.2	18	－3.8859	1.0749	1.50378	66.8
9	－5.6027	0.4650			19	3.1153			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0094	0.0056	0.0022	0.0015	0.0062	0.0799	2.13%

N.A.或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－27	1.0000	0.0017	0.0010	0.0007	0.0003	－0.024	－3.357
70	0.0010	0.0066	0.0006	0.0007	0.0004	0.0003	－0.013	1.824



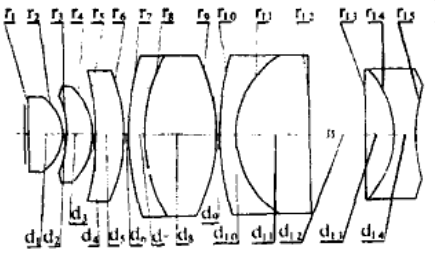
注：当 l ＝－W.D.时，β＝－100.28。

编号：10-05-083

油浸高倍显微镜物镜

E.F.L＝1.003　　B.F.L＝94.606　　N.A.＝1.25　　L_p＝0

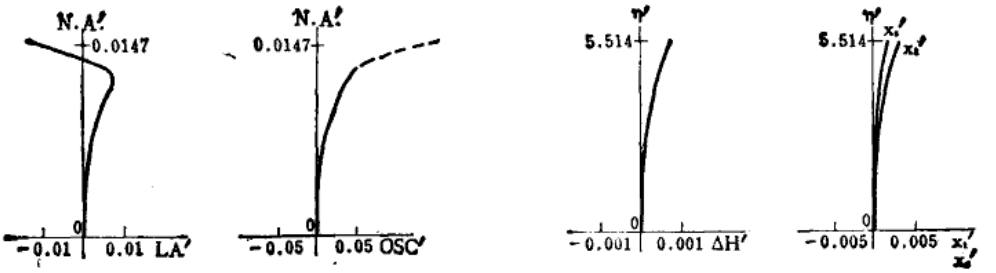
η＝0.055**　　β＝－100　　W.D.＝0.1852



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.00	8	4.3852	2.8516	1.48651	84.47
1	∞	1.5110	1.51700	64.50	9	－5.4187	0.0275		
2	－1.1841	0.0110			10	7.7912	0.6593	1.80491	25.43
3	－2.8995	1.0165	1.60550	43.93	11	2.8731	2.9374	1.48651	84.47
4	－2.0209	0.0110			12	39.7253	7.3016		
5	－7.2198	1.0879	1.60550	43.93	13	∞	1.1725	1.75496	27.58
6	－4.4868	0.1648			14	－2.9945	0.9929	1.61328	44.30
7	7.2198	0.6593	1.80491	25.43	15	4.7341			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0237	0.0064	0.0023	0.0027	0.0022	0.0549	1.39%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{f_1}'	$K_{f_{0.7}}'$
100	－0.0149	1.0000	0.0007	0.0030	0.0017	0.0013	－1.2240	0.0041
70	0.0047	0.0238	0.0002	0.0016	0.0008	0.0008	－0.7462	0.0061



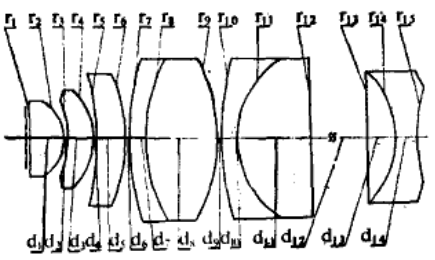
注：当 l＝－W.D.时，β＝－100.26。

编号：10-05-084

油浸高倍显微镜物镜

E.F.L＝1.8256　　B.F.L＝171.944　　N.A.＝1.25　　L_p＝0

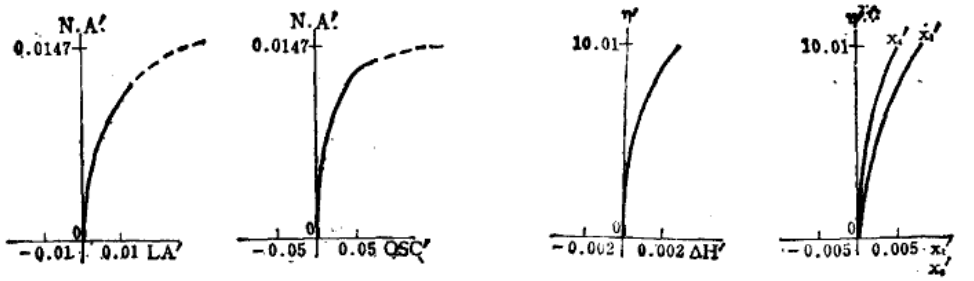
η＝0.1　　β＝－100　　W.D.＝0.3371



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.00	8	7.981	5.190	1.48651	84.47
1	∞	2.750	1.51700	64.50	9	－9.862	0.050		
2	－2.155	0.020			10	14.180	1.200	1.80491	25.43
3	－5.277	1.850	1.60550	43.93	11	5.229	5.346	1.48651	84.47
4	－3.678	0.020			12	72.300	13.289		
5	－13.140	1.980	1.60550	43.93	13	∞	2.134	1.75496	27.58
6	－8.166	0.300			14	－5.450	1.807	1.61328	44.30
7	13.140	1.200	1.80491	25.43	15	8.616			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_6	HI	QP（1 ω）
	0.0430	0.0116	0.0042	0.0049	0.0041	0.0999	1.39%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0986	0.2531	0.0013	0.0056	0.0031	0.0025	－2.215	0.008
70	0.0086	0.0237	0.0004	0.0029	0.0015	0.0014	－1.352	0.011



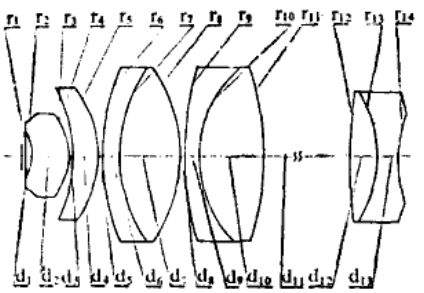
注：当 l＝－W D 时，β＝－100.13。

编号：10-05-085

油浸高倍显微镜物镜

E.F.L＝1　　B.F.L＝94.394　　N.A.＝1.25　　L_p＝0

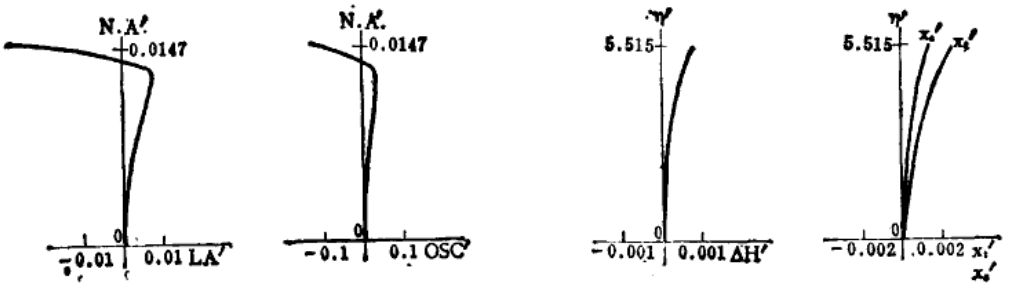
η＝0.055**　　β＝－100　　W.D.＝0.1848



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.00	8	－4.4548	0.0279		
1	∞	0.3173	1.51700	64.54	9	14.2190	0.6374	1.80491	25.42
2	－0.9047	1.5971	1.96028	34.92	10	3.1849	2.7756	1.48651	84.46
3	－1.5254	0.0109			11	－13.3123	8.3214		
4	－6.1208	1.1183	1.78833	50.47	12	31.4373	1.1676	1.75496	27.57
5	－3.3808	0.1641			13	－3.4557	0.9887	1.61328	44.28
6	8.7525	0.6702	1.80491	25.42	14	4.2715			
7	4.4548	2.5595	1.48651	84.46					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0224	0.0057	0.0019	0.0017	0.0021	0.0549	1.28%

N.A.或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.036	－0.137	0.0007	0.0023	0.0012	0.0011	－1.430	－0.002
70	0.004	0.021	0.0002	0.0012	0.0006	0.0006	－0.887	－0.0004



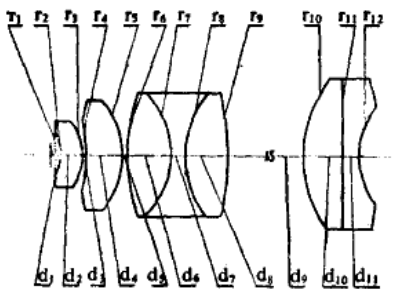
注：当 l＝－W.D.时，β＝－100.29。

编号：10-05-086

油浸高倍显微镜物镜

E.F.L＝0.9981　　B.F.L＝93.261　　N.A.＝1.25　　L_p＝0

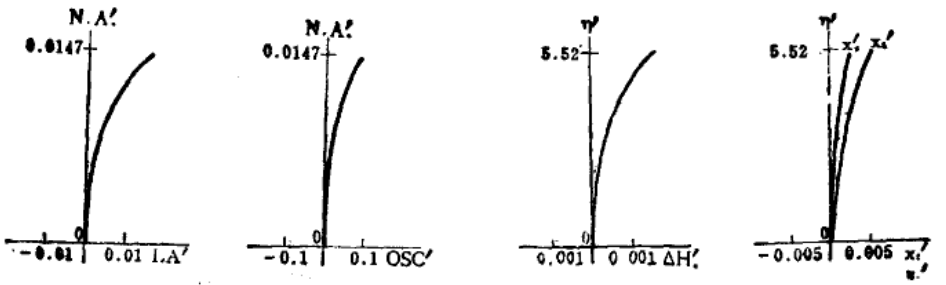
η＝0.055**　　β＝－100　　W.D.＝0.1899



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.00	7	－2.2979	0.6566	1.80491	25.42
1	∞	0.2736	1.51700	64.54	8	2.7335	1.7946	1.48651	84.46
2	－0.6779	0.8207	1.88050	41.01	9	－11.9566	6.9705		
3	－0.8596	0.0109			10	3.9941	1.6852	1.80784	40.74
4	－6.5328	1.5254	1.88050	41.01	11	∞	0.6566	1.61710	53.90
5	－2.6667	0.1641			12	2.4982			
6	7.3623	1.8165	1.78833	50.47					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0236	0.0079	0.0037	0.0030	0.0043	0.0549	2.77%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}	$K_{T0.7}$
100	0.0157	0.0794	0.0015	0.0048	0.0024	0.0024	－2.046	0.002
70	0.0048	0.0294	0.0005	0.0024	0.0012	0.0012	－1.289	0.012



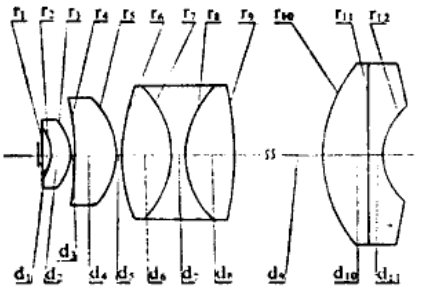
注：当 l＝－W.D.时，β＝－100.37。

编号：10-05-087

油浸高倍显微镜物镜

E.F.L＝1.8243　　B.F.L＝169.926　　N.A.＝1.25　　L_p＝0

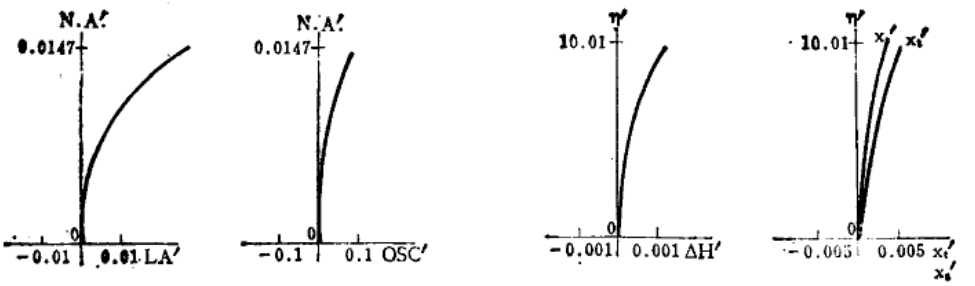
η＝0.1　　β＝－100　　W.D.＝0.3471



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.00	7	－4.200	1.200	1.80491	25.42
1	∞	0.500	1.51700	64.54	8	4.996	3.280	1.48651	84.46
2	－1.239	1.500	1.88050	41.01	9	－21.853	12.740		
3	－1.571	0.020			10	7.300	3.080	1.80784	40.74
4	－11.940	2.788	1.88050	41.01	11	∞	1.200	1.61710	53.90
5	－4.874	0.300			12	4.566			
6	13.456	3.320	1.78833	50.47					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0429	0.0143	0.0068	0.0054	0.0078	0.10	2.75%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0281	0.0780	0.0027	0.0088	0.0043	0.0045	－3.708	0.003
70	0.0089	0.0293	0.0009	0.0044	0.0021	0.0023	－2.335	0.021



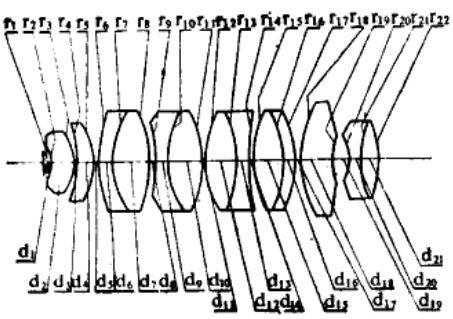
注：当 l＝－W.D.时，β＝－100.09。

编号：10-05-088

油浸平像场复消色差高倍显微镜物镜

E.F.L＝1　　B.F.L＝94.6474　　N.A.＝1.30　　L_p＝0

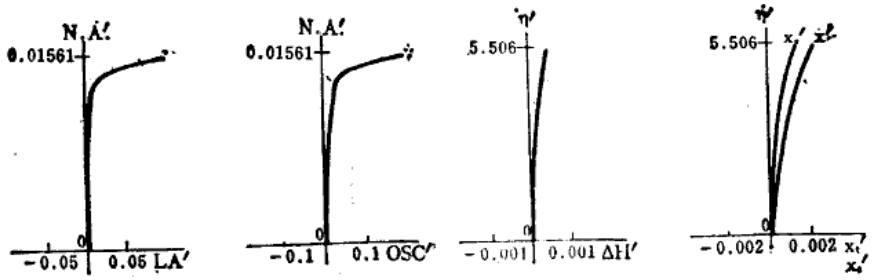
η＝0.055**　　β＝－100　　W.D.＝0.2176



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.00	12	5.0884	2.3527	1.43381	94.92
1	∞	0.2900	1.51700	64.50	13	－5.9260	0.6566	1.72029	34.59
2	－0.9047	1.5976	1.96028	34.91	14	14.3705	0.0547		
3	－1.5254	0.0109			15	5.9260	2.0791	1.43381	94.92
4	－6.1208	1.1162	1.78833	50.47	16	－5.9260	0.6566	1.66983	39.19
5	－3.3813	0.1641			17	－5.9260	0.0547		
6	7.9280	0.6566	1.72029	34.59	18	5.9260	2.2980	1.72029	34.59
7	4.1993	2.5715	1.43381	94.92	19	2.6263	0.9827		
8	－4.1993	0.0547			20	－1.8472	0.5471	1.78833	50.47
9	－12.4583	0.6566	1.65002	39.13	21	4.1993	1.3678	1.78446	25.75
10	3.7889	2.2433	1.43381	94.92	22	－4.1993			
11	－7.3601	0.0547							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1●）
	0.0323	0.0072	0.0021	0.0013	0.0015	0.0549	0.88%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.100	0.214	0.00048	0.0021	0.0010	0.0011	－0.209	－0.009
70	0.005	0.022	0.00017	0.0011	0.0005	0.0006	－0.178	0.004



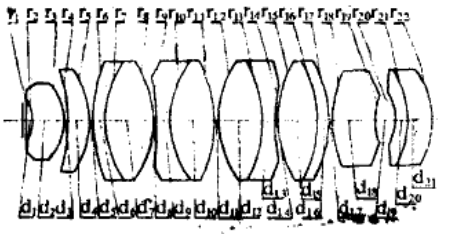
注：当 l＝－W.D.时，β＝－100.11。

编号：10-05-089

油浸平像场复消色差高倍显微镜物镜

E.F.L＝1.8394　　B.F.L＝173.642　　N.A.＝1.30　　L_p＝0

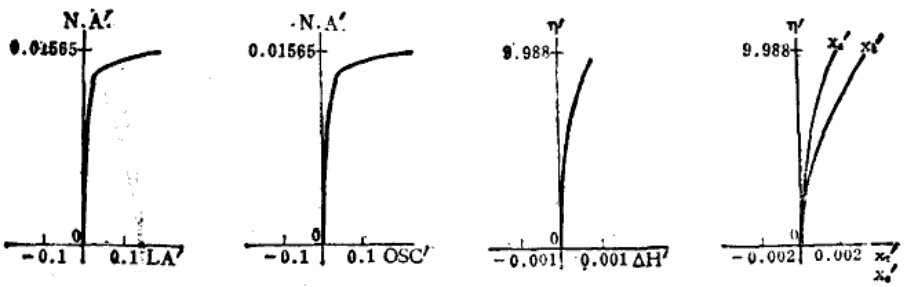
η＝0.1　　β＝－100　　W.D.＝0.3942



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.00	12	9.3000	4.300	1.43381	94.92
1	∞	0.530	1.51700	64.54	13	－10.8310	1.200	1.72029	34.59
2	－1.6535	2.920	1.96028	34.91	14	26.2650	0.100		
3	－2.7880	0.020			15	10.8310	3.800	1.43381	94.92
4	－11.1870	2.040	1.78833	50.47	16	－10.8310	1.200	1.66985	39.19
5	－6.1800	0.300			17	－10.8310	0.100		
6	14.4900	1.200	1.72029	34.59	18	10.8310	4.200	1.72029	34.59
7	7.6750	4.700	1.43381	94.92	19	4.8000	1.796		
8	－7.6750	0.100			20	－3.3760	1.000	1.78833	50.47
9	－22.7700	1.200	1.65002	39.13	21	－7.6750	2.500	1.78446	25.75
10	6.9250	4.100	1.43381	94.92	22	－7.6750			
11	－13.4520	0.100							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0548	0.0117	0.0034	0.0025	0.0026	0.0999	0.84%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{f1}	$K_{f0.7}$
100	0.193	0.226	0.0008	0.0035	0.0017	0.0018	－0.354	－0.016
70	0.009	0.018	0.0003	0.0018	0.0009	0.0009	－0.323	0.006



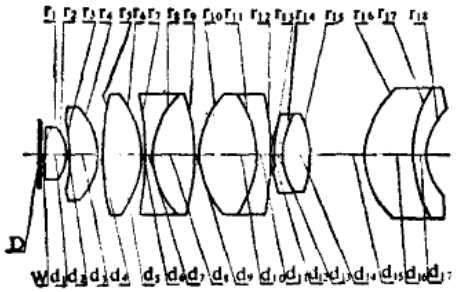
注：当 l＝－W.D.时，β＝－99.88。

编号：10-05-090

油浸平像场复消色差高倍显微镜物镜

E.F.L＝1.9175　　B.F.L＝180.559　　N.A.＝1.09**　　L_p＝0

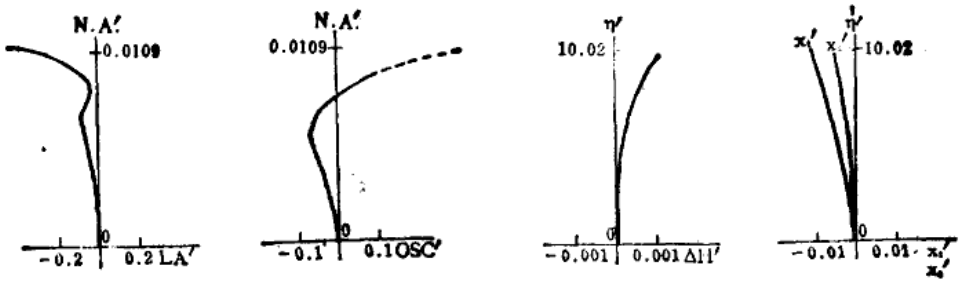
η＝0.1　　β＝－100　　W.D.＝0.6733



序号	r	d	n	ν	序号	r	d	n	ν
0			1.52377	43.22	10	6.800	6.07	1.43384	95.56
1	∞	2.26	1.57427	52.02	11	－9.294	1.68	1.61400	43.89
2	－1.778	0.09			12	－37.592	0.20		
3	－15.939	3.10	1.62040	60.29	13	－3.837	0.84	1.61400	43.89
4	－5.334	0.24			14	5.255	2.51	1.43384	95.56
5	21.618	4.22	1.43384	95.56	15	－6.752	5.97		
6	－8.687	0.08			16	6.967	5.23	1.76182	26.72
7	－24.511	0.89	1.61400	43.89	17	9.199	1.40	1.53033	51.19
8	6.477	4.32	1.43384	95.56	18	4.569			
9	－13.525	0.15							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	－0.3171	－0.0640	－0.0097	0.0029	0.0019	0.0999	1.05%

N.A.′或η′/%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	Kf_1	$Kf_{0.7}$
100	－0.459	1.000	0.0010	－0.011	－0.003	－0.008	－1.820	－0.016
70	－0.077	－0.051	0.0003	－0.007	－0.002	－0.005	－0.810	0.143



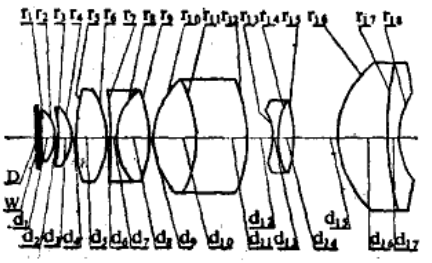
注：1.当 l ＝－W.D.时，β＝－100.22；2.W.D ＝D＋W＝0.17＋0.5033＝0.6733。

编号：10-05-091

油浸平像场复消色差高倍显微镜物镜

E.F.L＝1.583　　B.F.L＝144.762　　N.A.＝1.30　　L_p＝0

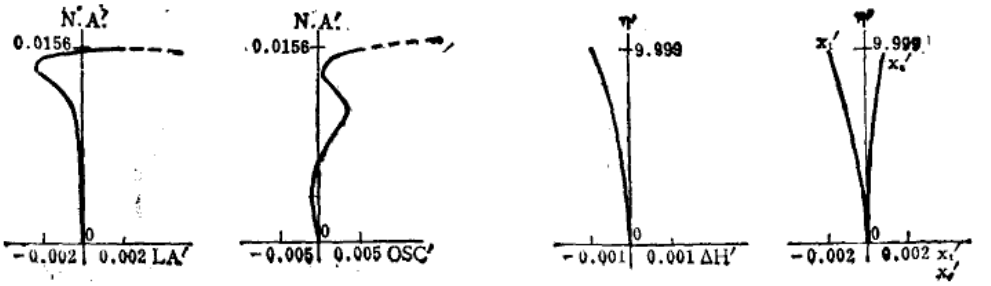
η＝0.1　　β＝－100　　W.D.＝0.313



序号	r	d	n	v	序号	r	d	n	v
0			1.52377	43.22	10	6.62	5.94	1.43384	95.56
1	∞	1.59	1.57472	52.02	11	－7.49	6.30	1.61400	43.89
2	－1.56	0.04			12	－10.48	3.07		
3	－9.84	1.73	1.62040	60.29	13	－3.51	0.84	1.61400	43.89
4	－3.62	0.15			14	6.22	1.93	1.43384	95.56
5	19.68	4.01	1.43384	95.56	15	－9.93	5.89		
6	－7.26	0.12			16	7.78	6.63	1.65348	33.48
7	－60.83	0.91	1.61400	43.89	17	20.64	1.63	1.62040	60.29
8	5.87	4.75	1.43384	95.56	18	6.80			
9	－10.60	0.03							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ∞）
	－0.0079	－0.0019	－0.0060	0.0083	－0.0026	0.0999	－0.82%

N.A.或η′%	LA′	OSC′	ΔH′	x_s'	x_t'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	1.1872	1.0000	－0.0008	－0.0017	0.0008	－0.0025	－7.65	－11.56
70	－0.0002	0.0037	－0.0003	－0.0011	0.0003	－0.0014	－3.01	－4.43



注：1.当 l ＝－V.D.时，β＝－99.99；

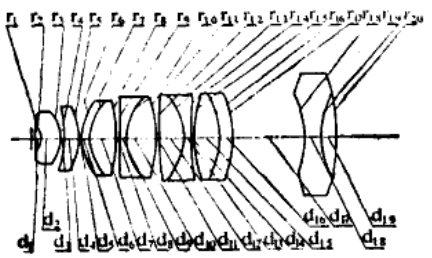
2.W.D.＝D＋W＝0.17＋0.143＝0.313。

编号：10-05-092

油浸复消色差高倍显微镜物镜

E.F.L＝0.9998　　B.F.L＝94.469　　N.A.＝1.30　　L_p＝0

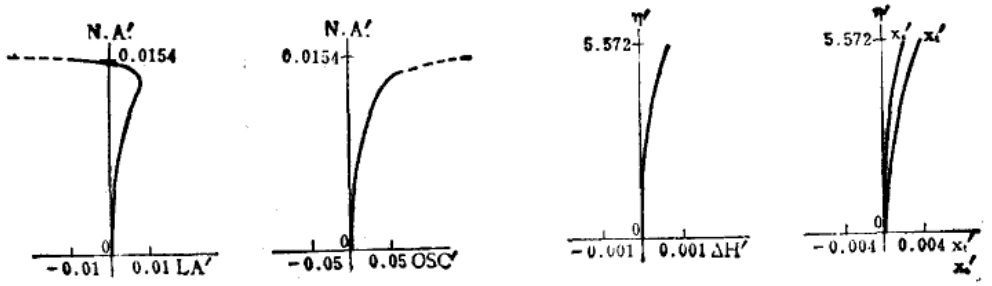
η＝0.055**　　β＝－100　　W.D.＝0.1838



序号	r	d	n	v	序号	r	d	n	v
0			1.51510	50.00	11	－6.5073	0.1702		
1	∞	0.2900	1.51700	64.50	12	31.3022	1.6584	1.43381	94.93
2	－0.9047	1.6108	1.80264	46.75	13	－3.4776	0.5471	1.68049	37.36
3	－1.4258	0.0109			14	25.6639	0.0142		
4	－6.3949	1.0669	1.78833	50.47	15	7.9608	1.7399	1.43381	94.93
5	－3.3249	0.1641			16	－3.9038	1.0943	1.68049	37.36
6	3.9667	0.5471	1.64316	47.95	17	－5.1934	5.0539		
7	2.8872	1.9484	1.43381	94.93	18	－4.4482	1.1424	1.78833	50.47
8	－7.2102	0.0170			19	3.3977	1.0696	1.78446	25.76
9	－402.2170	0.5471	1.68049	37.36	20	－18.0199			
10	2.7412	2.0107	1.43381	94.93					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0317	0.0094	0.0035	0.0026	0.0024	0.0549	1.41%

N.A.′或η′%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－907.3	1.000	0.0007	0.0034	0.0018	0.0016	－40.97	－125.07
70	0.0052	0.027	0.0002	0.0018	0.0009	0.0009	－9.506	－0.002

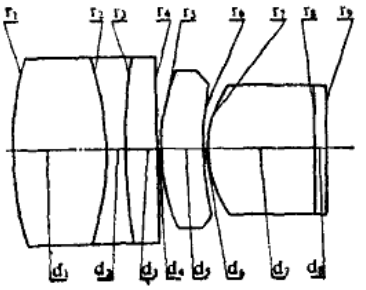


注：当 l＝－W.D.时，β＝－101.32。

编号：10-05-093

显 微 镜 聚 光 系 统

E.F.L=9.836　B.F.L=　N.A.=1.30　η=　β=　W.D.=



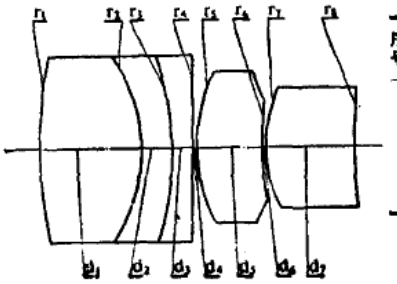
序号	r	d	n	v	序号	r	d	n	v
1	26.752	8.10	1.64049	60.1	6	23.216	0.11		
2	−21.042	1.50	1.79504	28.4	7	7.976	9.30	1.69680	55.4
3	52.427	2.70	1.69680	55.4	8	∞	1.00	1.63636	35.3
4	−108.300	0.11			9	∞			
5	14.898	3.25	1.69680	55.4					

注：光瞳平面位置=3.60**。

编号：10-05-094

显 微 镜 聚 光 系 统

E.F.L=1　B.F.L=　N.A.=0.9　η=　β=　W.D.=



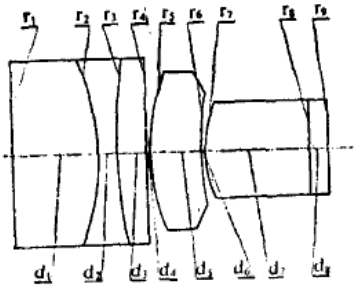
序号	r	d	n	v	序号	r	d	n	v
1	4.11190	0.87230	1.69680	55.39	5	1.14130	0.58400	1.69680	55.39
2	−1.11890	0.25840	1.80518	25.43	6	2.84350	0.03100		
3	−2.99070	0.16540	1.69680	55.39	7	0.77569	0.77640	1.56384	60.32
4	−10.22200	0.01137			8	5.17260			

注：光瞳平面位置=0.1344**。

编号：10-05-095

显 微 镜 聚 光 系 统

E.F.L=1.0178　B.F.L=　N.A.=1.30　η=　β=　W.D.=



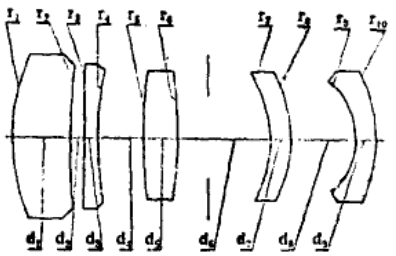
序号	r	d	n	v	序号	r	d	n	v
1	43.65200	0.75860	1.696800	55.41	6	3.01390	0.03100		
2	−2.29500	0.15500	1.805182	25.43	7	0.75399	0.89400	1.617650	55.41
3	11.94800	0.27700	1.696800	55.41	8	∞	0.15500	1.784701	26.08
4	−12.67900	0.01137			9	∞			
5	1.53170	0.43310	1.696800	55.41					

注：光瞳平面位置=0.1218**。

编号：10-06-001

广角小型照相物镜(含非球面)

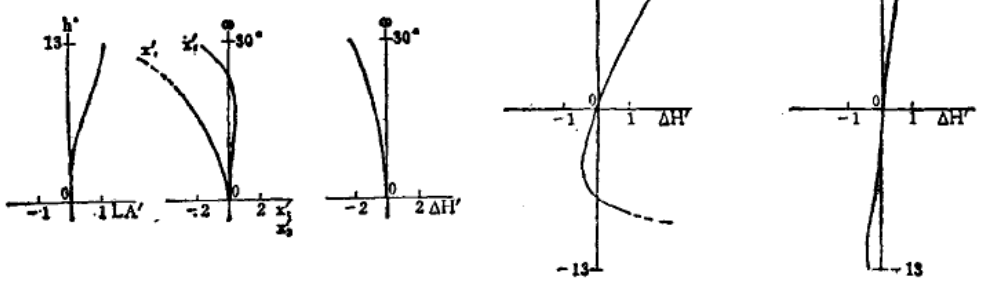
E.F.L＝91.28　　B.F.L＝31.81　　FNo.＝35**　　F.A.＝±30°**



序号	r	d	n	ν	序号	r	d	n	ν
1	31.59	9.62	1.77250	49.6	6	−81.55	15.09*		
2	128.41	2.32			7	−23.43	3.48	1.49171	57.4
3	−207.95	2.46	1.84666	23.9	8	−27.38	10.83		
4	60.55	7.60			9	−18.84†	3.48	1.49171	57.4
5	94.39	5.63	1.59270	35.3	10	−23.86			

15.09* = 5.00 + 10.09

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0602	−0.0064	−0.0793	0.1921	−0.8157	52.6	−4.9%
h 或 ω%	LA′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	1.097	−2.58	−9.90	−1.66	−8.24	4.889	−4.224
70	0.661	−1.20	−2.99	0.31	−3.30	−0.098	0.003



注：1985年发表。

† r_9是非球面，FNo. = 2，非球面方程为：

$$x_9 = \frac{(1/r_9)y^2}{1+\sqrt{1-(y/r_9)^2}} + A_1y^2 + A_2y^4 + A_3y^6 + A_4y^8 + A_5y^{10} + B_1y^5 + B_2y^6 + B_3y^7 + B_4y^9$$

$A_1 = -2.86\times10^{-8}$；$A_2 = -1.03\times10^{-5}$；$A_3 = -1.73\times10^{-7}$；

$A_4 = -2.42\times10^{-9}$；$A_5 = -2.26\times10^{-12}$；$B_1 = 4.18\times10^{-6}$；

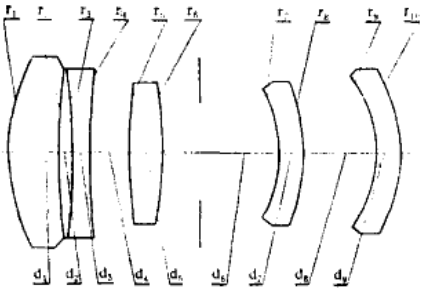
$B_2 = 2.23\times10^{-6}$；$B_3 = -1.14\times10^{-8}$；$B_4 = -1.28\times10^{-10}$

上表中的像差值是按r_9为球面计算的。

编号：10-06-002

广角小型照相物镜（含非球面）

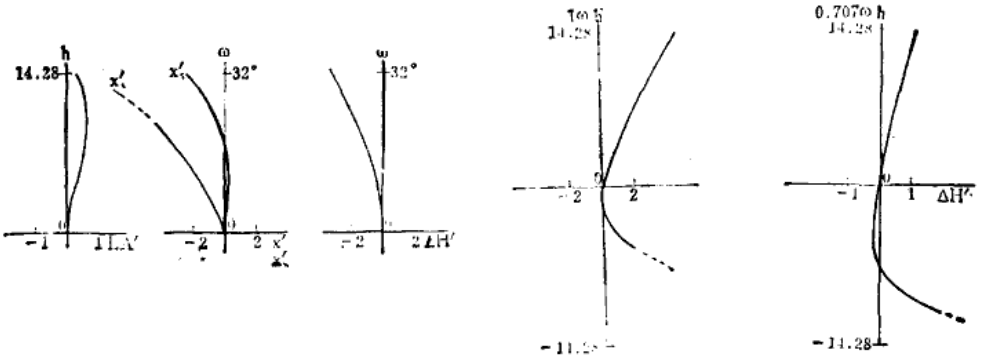
E.F.L＝89.53　　B.F.L＝30.12　　FNo.＝3.13**　　F.A.＝±32°



序号	r	d	n	v	序号	r	d	n	v
1	25.51	7.18	1.62299	58.2	6	−70.27	16.06*		
2	94.10	1.92			7	−18.11	3.93	1.49171	57.4
3	−111.65	2.46	1.84666	23.9	8	−24.99	10.51		
4	101.76	5.54			9	−17.99†	3.48	1.49171	57.4
5	81.93	4.81	1.59270	35.3	10	−23.38			

16.06* = 5.00 + 11.06

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.1088	−0.0135	−0.0995	0.2355	−1.6992	55.9	−6.9%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T_1}	$K_{T_{0.7}}$
100	0.195	−3.87	−11.10	−2.65	−8.45	2.705	55.209
70	0.730	−1.65	−4.57	−0.01	−4.56	12.259	−0.968



注：1985年发表。

† r_9是非球面，FNo. = 2，非球面方程为：

$$x_9=\frac{(1/r_9)y^2}{1+\sqrt{1-(y/r_9)^2}}+A_1y^2+A_2y^4+A_3y^6+A_4y^8+A_5y^{10}+B_1y^8+B_2y^6+B_3y^7+B_4y^9$$

$A_1=-3.61\times10^{-8}$，$A_2=-5.42\times10^{-6}$，$A_3=-1.97\times10^{-7}$，

$A_4=2.59\times10^{-9}$，$A_5=2.06\times10^{-12}$，$B_1=4.29\times10^{-6}$，

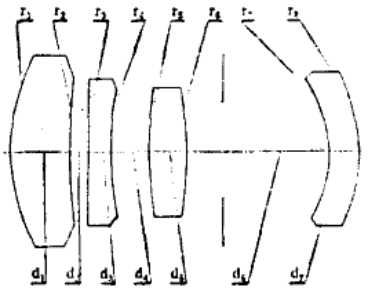
$B_2=1.93\times10^{-6}$，$B_3=-1.12\times10^{-8}$，$B_4=-1.31\times10^{-10}$

上表中的像差值是按r_9为球面计算的。

编号：10-06-003

全长短的广角照相物镜（含非球面）

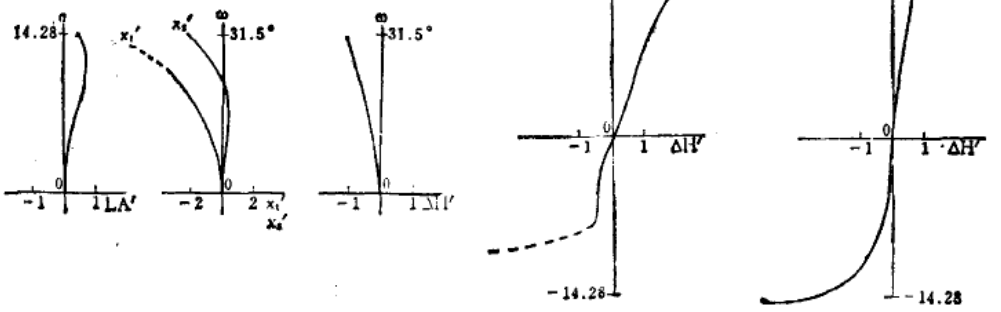
E.F.L＝93.23　　B.F.L＝43.59　　FNo.＝3.26**　　F.A.＝±31.5°



序号	r	d	n	v	序号	r	d	n	v
1	28.32	8.59	1.77250	49.6	5	69.12	5.44	1.60342	38.0
2	86.00	2.66			6	−69.12	20.51*		
3	−159.52	2.86	1.80518	25.4	7	−16.56†	4.58	1.49171	57.4
4	43.65	5.33			8	−22.20			

20.51* = 5.00 + 15.51

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.088	−0.018	−0.097	0.240	−0.476	57.1	−2.1%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T_1}'	$K_{T_{0.7}}'$
100	0.438	−1.20	−8.85	−2.52	−6.33	13.638	6.664
70	0.664	−0.74	−2.72	0.18	−2.90	1.741	0.112



注：1986年发表。

† r_7是非球面，非球面方程为：

$$x_7=\frac{(1/r_7)y^2}{1+\sqrt{1-(y/r_7)^2}}+A_1y^2+A_2y^4+A_3y^6+A_4y^8+A_5y^{10}+B_1y^3+B_2y^5+B_3y^7+B_4y^9$$

$A_1=-0.17023\times10^{-2}$；$A_2=0.65538\times10^{-5}$；$A_3=-0.74579\times10^{-7}$；

$A_4=0.28740\times10^{-9}$；$A_5=0.11786\times10^{-12}$；$B_1=-0.54318\times10^{-4}$；

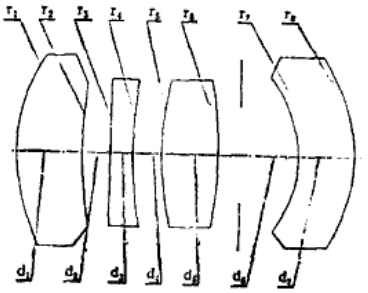
$B_2=0.73458\times10^{-7}$；$B_3=0.15509\times10^{-8}$；$B_4=-0.13024\times10^{-10}$

上表中的像差值是按 r_7 为球面计算的。

编号：10-06-004

全长短的小型照相机物镜（含非球面）

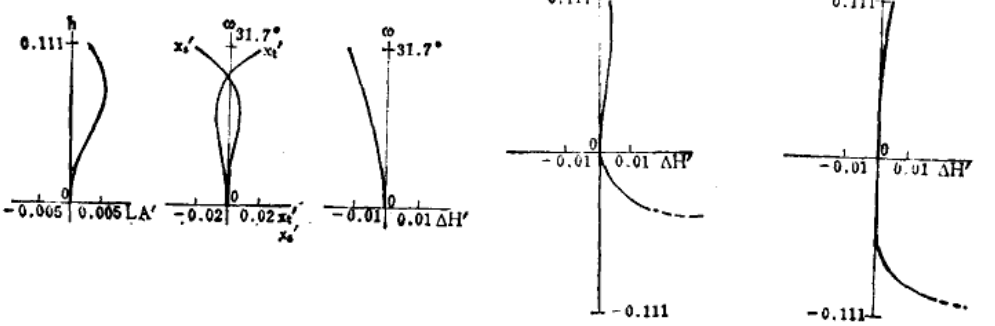
E.F L＝1　　B.F.L＝0.50　　FNo.＝4.5　　F.A.＝±31.7°



序号	r	d	n	v	序号	r	d	n	v
1	0.22289	0.09428	1.56873	63.16	5	0.46873	0.08083	1.58144	40.75
2	0.51215	0.03743			6	−0.74849	0.11060*		
3	−1.31200	0.03003	1.80518	25.43	7	−0.14270†	0.08374	1.49149	56.40
4	0.72485	0.03506			8	−0.25333†			

0.11060* = 0.03060 + 0.08060

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00041	−0.00041	0.00009	0.00108	−0.10008	0.61	−2.3%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\tan\omega$	$K\tan\omega_{0.7}$
100	0.0026	−0.014	0.018	−0.026	0.044	0.1004	0.0664
70	0.0055	−0.008	−0.009	0.005	−0.014	−0.0693	−0.0020



注：1986年发表。

† r_i是非球面，非球面方程为：

$$x_i=\frac{y^2}{r_i+r_i\sqrt{1-(y/r_i)^2}}+A_iy^4+B_iy^6+C_iy^8+D_iy^{10}\qquad(i=7,\ 8)$$

$A_7=1.3766\times10^0$；$B_7=-2.3485\times10^2$；$C_7=-5.6487\times10^4$；$D_7=-4.2770\times10^6$；

$A_8=-1.1559\times10^{-1}$；$B_8=-4.9287\times10^1$；$C_8=-2.1482\times10^2$；$D_8=-8.9905\times10^2$

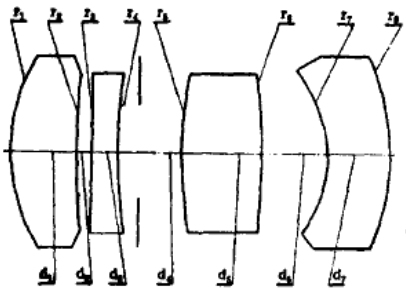
上表中的像差值是按r_7和r_8均为球面计算的。

望远比 0.983。

编号: 10-06-005

全长短的小型照相机物镜(含非球面)

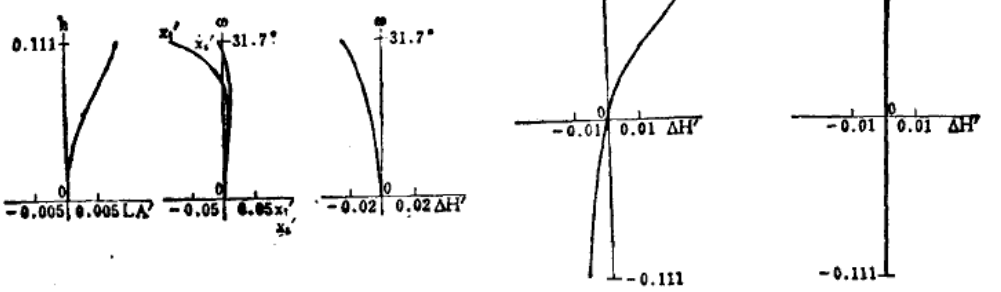
E.F.L=0.9999　　B.F.L=0.434　　FNo.=4.5　　F.A.=±31.7°



序号	r	d	n	v	序号	r	d	n	v
1	0.26168	0.09710	1.60729	59.38	5	0.73971	0.11000	1.66446	35.83
2	1.14610	0.01908			6	−1.35693	0.09770		
3	−3.39178	0.03590	1.80518	25.43	7	−0.18434†	0.09010	1.62588	35.70
4	0.74500	0.09119*			8	−0.35832†			

$0.09119^{*} = 0.03000 + 0.06119$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	Hi	QP(1ω)
	0.00026	0.00007	0.00026	0.00095	0.00185	0.61	−3.9%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_T'	$K_{T0.7}'$
100	0.0075	−0.024	−0.090	−0.010	−0.080	−0.0130	−0.0069
70	0.0046	−0.011	0.001	0.012	−0.011	−0.0001	−0.0002



注：1986年发表。

† r_7是非球面，非球面方程为：

$$x_i = \frac{y^2}{r_i + r_{i7}\sqrt{1-(y/r_i)^2}} + A_i y^4 + B_i y^6 + C_i y^8 + D_i y^{10} \qquad (i = 7,\ 8)$$

$A_7 = -4.3145\times10^{0}$；$B_7 = -1.0622\times10^{1}$；$C_7 = -5.6528\times10^{2}$；$D_7 = -4.3456\times10^{3}$；

$A_8 = -1.9999\times10^{0}$；$B_8 = -3.5279\times10^{-1}$；$C_8 = -2.1455\times10^{2}$；$D_8 = -8.9771\times10^{2}$

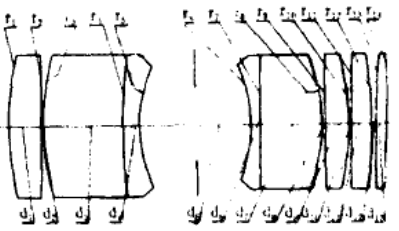
上表中的像差值是按r_7和r_8均为球面计算的。

望远比 0.988。

编号：10-06-006

高斯型大孔径照相物镜（含非球面）

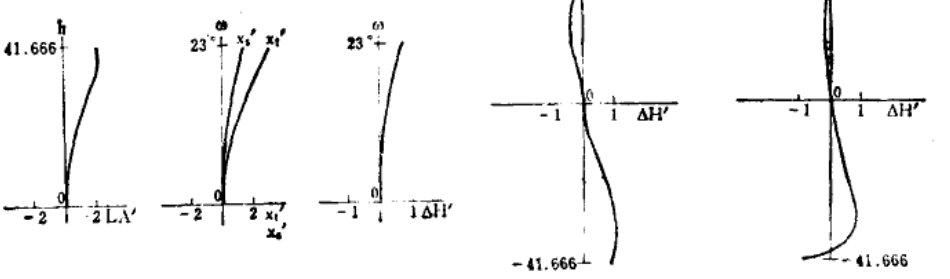
E.F.L＝100　　B.F.L＝70.23　　FNo.＝1.2　　F.A.＝±23°



序号	r	d	n	v	序号	r	d	n	v
1	103.1450	8.682	1.77250	49.6	8	−63.0719	0.291		
2	391.7900	0.291			9	−326.6730	7.752	1.81600	46.6
3	75.8920†	22.341	1.75700	47.9	10	−88.3036	0.194		
4	208.4080	3.992	1.62588	35.7	11	1072.9840	6.492	1.77250	49.6
5	40.0794	31.120*			12	−148.5710	0.388		
6	−37.4074	2.326	1.78470	26.2	13	930.7220	3.488	1.62299	58.2
7	612.7240	17.650	1.81600	16.6	14	−930.7220			

31.120* = 15.56 + 15.56

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	1.451	−0.536	0.128	0.695	1.041	42.3	1.7%
h 或 ω %	LA′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	2.15	0.72	2.91	1.25	1.66	−1.292	−0.387
70	1.67	0.27	1.31	0.84	0.47	0.124	−0.405



注：1985年发表。

† r_3 是非球面，非球面方程为：

$$x_3 = \frac{y^2}{r_3 + r_3\sqrt{1-(y/r_3)^2}} + Ay^2 + By^4 + Cy^6 + Dy^8 + Ey^{10}$$

$A = 0$；$B = -1.023571 \times 10^{-7}$；$C = 6.311869 \times 10^{-11}$；

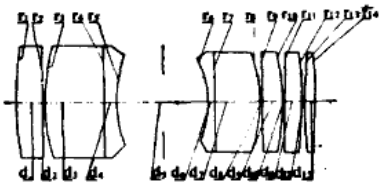
$D = -6.418568 \times 10^{-14}$；$E = 2.089950 \times 10^{-17}$

上表中的像差值是按r_3为球面计算的。

编号：10-06-007

高斯型大孔径照相物镜（含非球面）

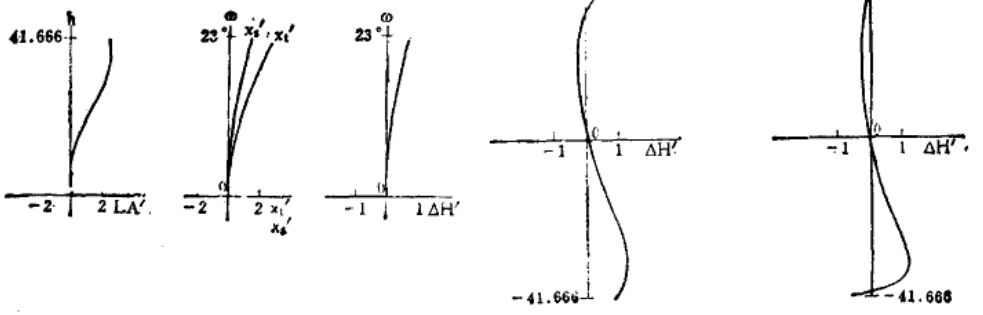
E.F.L＝100　　B.F.L＝71.36　　FNo.＝1.2　　F.A.＝±23°



序号	r	d	n	v	序号	r	d	n	v
1	131.8240	8.682	1.88300	40.8	8	−66.6741	0.291		
2	391.9180	0.291			9	−227.0710	7.752	1.88300	40.8
3	76.9526†	20.347	1.88300	40.8	10	−82.0924	0.194		
4	358.2590	3.992	1.67270	32.1	11	1116.8270	6.492	1.88300	40.8
5	45.0390	31.120*			12	−225.0970	0.388		
6	−40.1116	2.326	1.84666	23.9	13	813.9530	3.488	1.69680	55.5
7	872.5050	16.703	1.88300	40.8	14	−813.9530			

31.120* = 15.560 + 15.560

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	1.681	−0.641	0.213	0.659	0.932	42.3	1.4%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T_1}	$K_{T_{0.7}}$
100	2.62	0.59	2.92	1.25	1.67	−0.647	−0.503
70	2.02	0.24	1.42	0.86	0.56	0.362	−0.473



注：1985年发表。

† r_3是非球面，非球面方程为：

$$x_3 = \frac{y^2}{r_3 + r_3\sqrt{1 - (y/r_3)^2}} + Ay^2 + By^4 + Cy^6 + Dy^8 + Ey^{10}$$

$A = 0$；$B = -1.056712 \times 10^{-7}$，$C = 6.529709 \times 10^{-11}$；

$D = -6.541180 \times 10^{-14}$，$E = 2.089950 \times 10^{-17}$

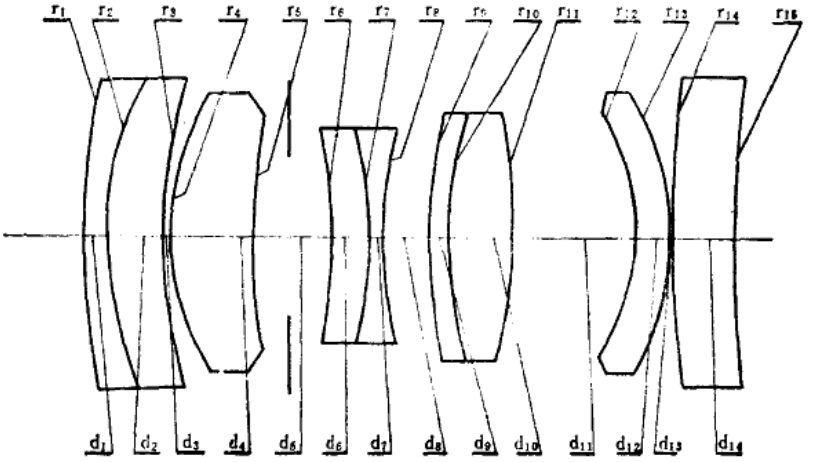
上表中的像差值是按r_3为球面计算的。

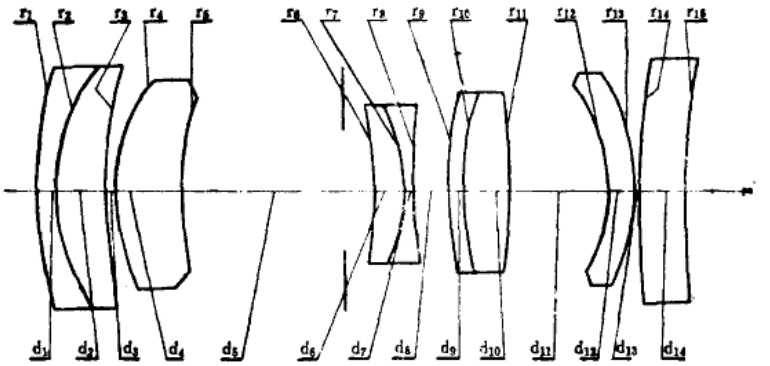
编号：10-07-001

转 换 式 变 倍 物 镜

短焦点E.F.L＝40.99　长焦点E.F.L＝58.49

B.F.L＝18.34　FNo.＝3.5　F.A.＝±27.8°（短焦）　F.A.＝±20.3°（长焦）





序号	r	d	n	v	序号	r	d	n	v
1	31.046	1.300	1.80518	25.4	9	45.049	1.300	1.59270	35.3
2	19.417	2.886	1.60311	60.7	10	20.708	2.993	1.77250	49.6
3	32.107	0.150			11	−38.312	6.398		
4	15.894	4.313	1.69680	55.5	12	−10.567	1.700	1.59551	39.2
5	47.193	＊＊＊d_5*	＊＊＊n_5		13	−13.554	0.150		
6	＊＊＊r_6	＊＊＊d_6	＊＊＊n_6	＊＊＊v_6	14	62.783	3.000	1.69680	55.5
7	＊＊＊r_7	＊＊＊d_7	＊＊＊n_7	＊＊＊v_7	15	66.311			
8	＊＊＊r_8	2.200							

10-07-001-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0098	0.0121	0.0058	0.0674	0.1402	21.6	0.7%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\tan'_1$	$K\tan'_{0.7}$
100	0.082	0.156	−1.47	−0.42	−1.05	−0.618	−0.256
70	0.085	−0.014	0.29	0.44	−0.15	−0.016	0.004

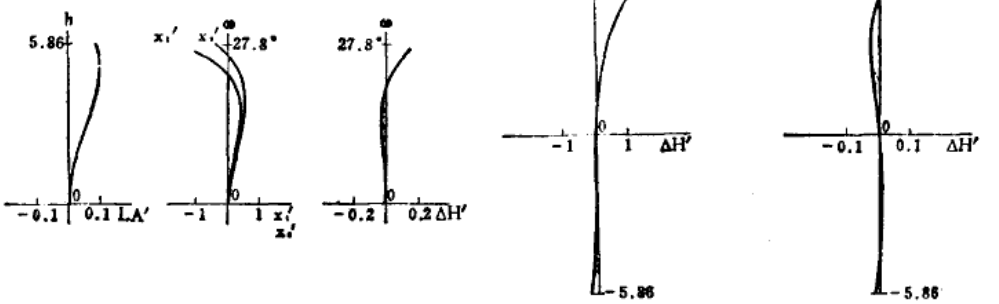
E . F . L = 40.99

＊＊＊r_6 = −32.735; ＊＊＊r_7 = −27.522; ＊＊＊r_8 = 23.787

＊＊＊d_5* = 3.845* = 1.845 + 2.000; ＊＊＊d_6 = 2.000; ＊＊＊d_7 = 0.800

＊＊＊n_5 = 1.00000; ＊＊＊n_6 = 1.77250; ＊＊＊n_7 = 1.52310

＊＊＊v_6 = 49.6; ＊＊＊v_7 = 50.8



10-07-001-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0266	0.0019	−0.0023	0.0318	−0.2634	21.6	−2.6%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\tan'_1$	$K\tan'_{0.7}$
100	−0.201	−0.57	−0.49	−0.63	0.14	−3.225	−0.942
70	0.168	−0.32	0.28	0.19	0.09	−0.045	−0.060

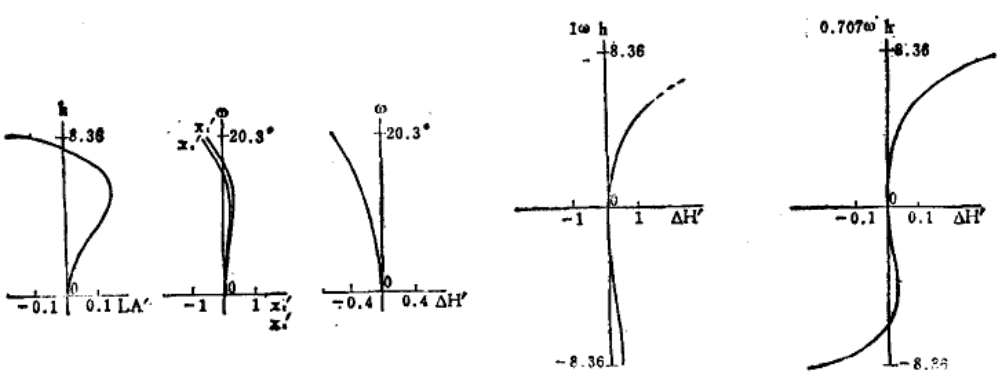
E . F . L = 58.49

＊＊＊r_6 = −29.531; ＊＊＊r_7 = −9.021; ＊＊＊r_8 = 41.549

＊＊＊d_5' = 11.661* = 9.661 + 2.000; ＊＊＊d_6 = 2.000; ＊＊＊d_7 = 0.800

＊＊＊n_5 = 1.00000; ＊＊＊n_6 = 1.54869; ＊＊＊n_7 = 1.69680

＊＊＊v_6 = 45.6; ＊＊＊v_7 = 55.5



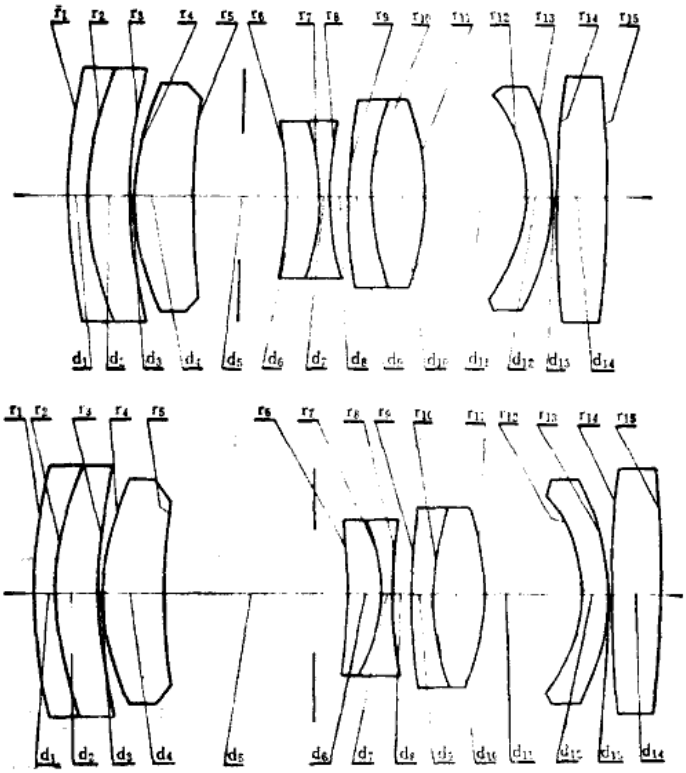
注：镜头是可以转换的，＊＊＊(r_i, d_{i-1}, n_{i-1})是可转换部分的结构参数。镜头是间断性变倍，B . F . L 是定值。

编号：10-07-002

转 换 式 变 倍 物 镜

短焦点E.F.L＝41.0　　长焦点E.F.L＝58.5　　B.F.L＝18.66

FNo.＝3.5　　F.A.＝±27.8°（短焦）　　F.A.＝±20.3°（长焦）



序 号	r	d	n	ν
1	30.4460	1.30	1.80518	25.4
2	19.2380	2.97	1.60311	60.7
3	33.0020	0.15		
4	15.5770	3.85	1.69680	55.5
5	41.8220	＊＊＊d_5*	＊＊＊n_5	
6	＊＊＊r_7	＊＊＊d_6	＊＊＊n_6	＊＊＊ν_6
7	＊＊＊r_8	＊＊＊d_7	＊＊＊n_7	＊＊＊ν_7
8	＊＊＊r_9	1.00		
9	38.3820	1.30	1.59270	35.3
10	15.7180	3.29	1.77250	49.6
11	－51.9950	6.25		
12	－9.8177	1.70	1.59551	39.2
13	－13.5600	0.15		
14	178.1370	3.00	1.69680	55.5
15	－289.6630			

10-07-002-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1·ω)
	0.0046	0.0037	0.0098	0.0521	0.1856	21.6	0.43%
h 或ω%	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.046	0.09	−0.34	−0.27	−0.07	−0.192	−0.062
70	0.021	−0.02	0.41	0.37	0.04	−0.027	0.005

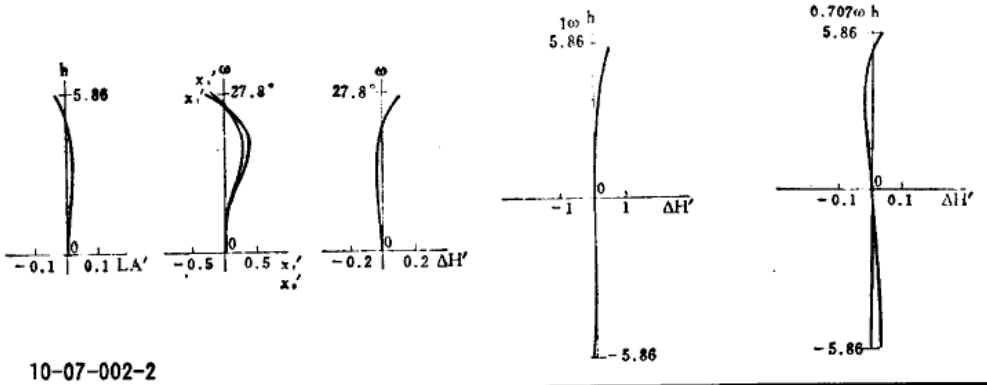
E . F . L = 41.0

＊＊＊r_6 = −27.059; ＊＊＊r_7 = −15.347; ＊＊＊r_8 = 21.502

＊＊＊d_5^* = 4.14* = 2.14 + 2.00; ＊＊＊d_6 = 2.00; ＊＊＊d_7 = 0.80

＊＊＊n_5 = 1.0000; ＊＊＊n_6 = 1.77250; ＊＊＊n_7 = 1.52310

＊＊＊ν_6 = 49.6; ＊＊＊ν_7 = 50.8



10-07-002-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0288	−0.0124	−0.0105	0.0330	−0.2421	21.6	−2.4%
h 或ω%	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.144	−0.53	1.21	−0.08	1.29	−0.8177	−0.2723
70	0.197	−0.29	0.03	0.14	−0.11	−0.0059	−0.0526

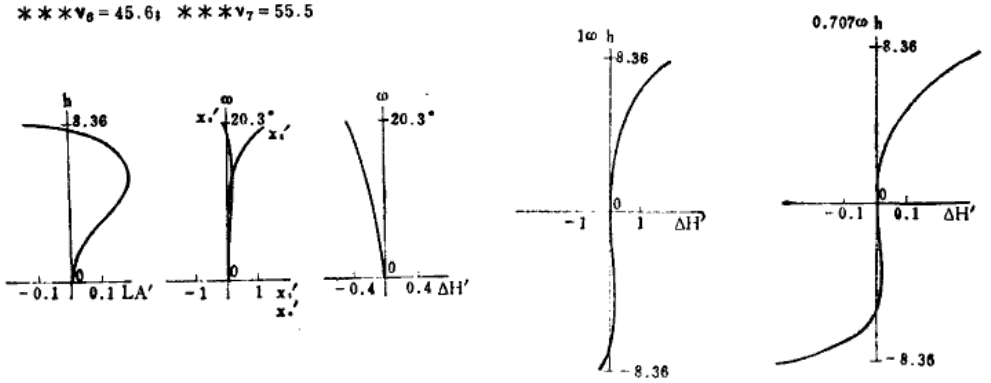
E . F . L = 58.5

＊＊＊r_6 = −38.856; ＊＊＊r_7 = −9.395; ＊＊＊r_8 = 31.732

＊＊＊d_5^* = 11.68* = 9.68 + 2.00; ＊＊＊d_6 = 2.00; ＊＊＊d_7 = 0.80

＊＊＊n_5 = 1.00000; ＊＊＊n_6 = 1.54869; ＊＊＊n_7 = 1.69680

＊＊＊ν_6 = 45.6; ＊＊＊ν_7 = 55.5



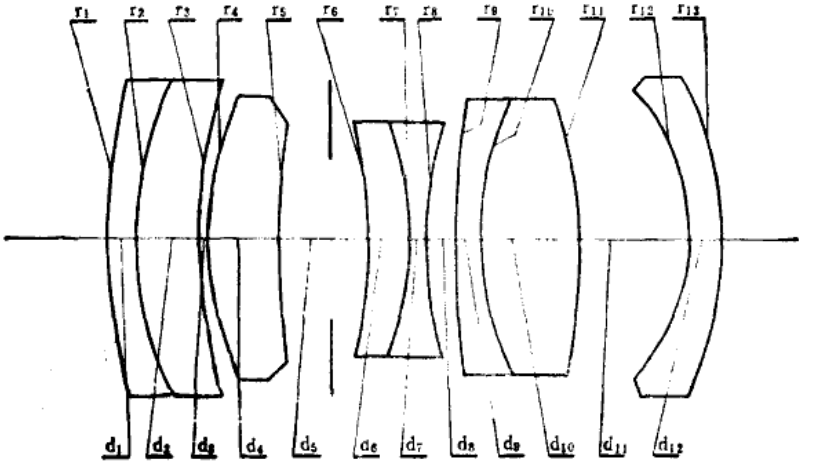
注：镜头是可以转换的，＊＊＊(r_i, d_{i-1}, n_{i-1}) 是可转换部分的结构参数。镜头是间断性变倍。B . F . L 是定值。

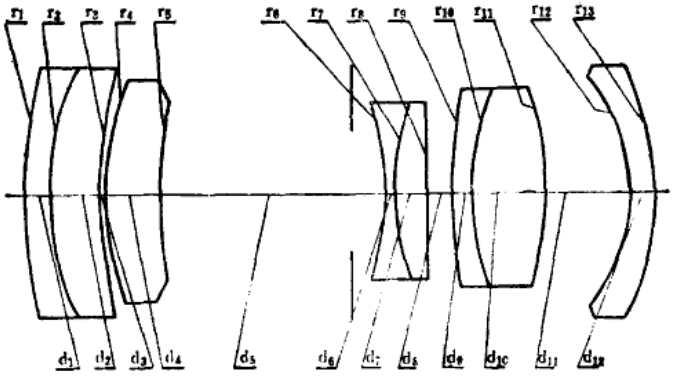
编号：10-07-003

转 换 式 变 倍 物 镜

短焦点E.F.L＝41.05　　长焦点E.F.L＝58.62　　B.F.L＝20.05

FNo.＝3.5　　F.A.＝±27.8°（短焦）　　F.A.＝±20.8°（长焦）





序 号	r	d	n	v
1	31.8840	1.30	1.75520	27.5
2	17.0280	3.23	1.65844	50.9
3	32.0140	0.15		
4	16.0470	3.56	1.69680	55.5
5	47.1640	＊＊＊d_5*	＊＊＊n_5	
6	＊＊＊r_6	＊＊＊d_6	＊＊＊n_6	＊＊＊v_6
7	＊＊＊r_7	＊＊＊d_7	＊＊＊n_7	＊＊＊v_7
8	＊＊＊r_8	1.50		
9	45.3680	1.30	1.59270	35.3
10	17.9170	4.59	1.77250	49.6
11	−32.8330	5.49		
12	−11.1997	1.70	1.51742	52.3
13	−17.1860			

10-07-003-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0112	0.0095	0.0123	0.0495	0.0677	21.6	-1.3%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{T}_1$	$K\dot{T}_{0.7}$
100	0.154	-0.28	-0.24	-0.27	0.03	-0.108	-0.034
70	0.110	-0.13	0.49	0.39	0.10	0.050	0.036

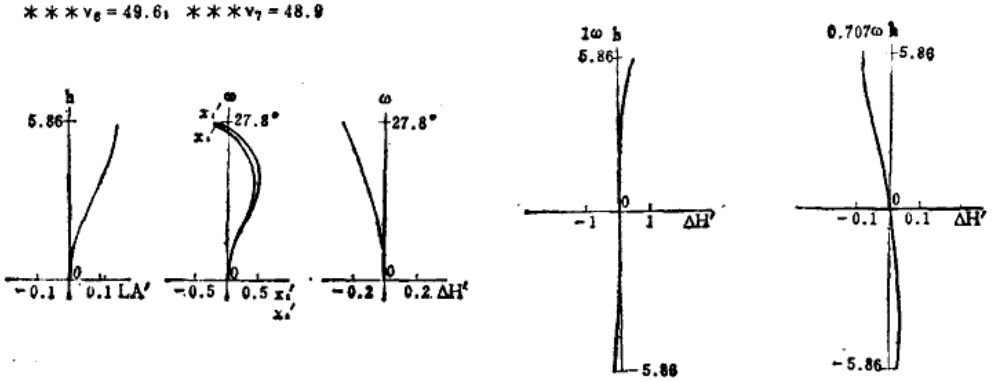
E . F . L = 41.05

＊＊＊r_8 = -26.976; ＊＊＊r_7 = -17.626; ＊＊＊r_8 = 24.572

＊＊＊d_6^* = 4.42* = 2.42 + 2.00; ＊＊＊d_6 = 2.00; ＊＊＊d_7 = 0.80

＊＊＊n_5 = 1.00000; ＊＊＊n_6 = 1.77250; ＊＊＊n_7 = 1.53172

＊＊＊v_6 = 49.6; ＊＊＊v_7 = 48.9



10-07-003-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0197	0.0173	-0.0083	0.0124	-0.2834	21.6	-3.2%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\dot{T}_1$	$K\dot{T}_{0.7}$
100	0.028	-0.69	1.32	-0.39	1.71	-2.123	-0.626
70	0.151	-0.37	0.25	0.01	0.24	0.240	0.049

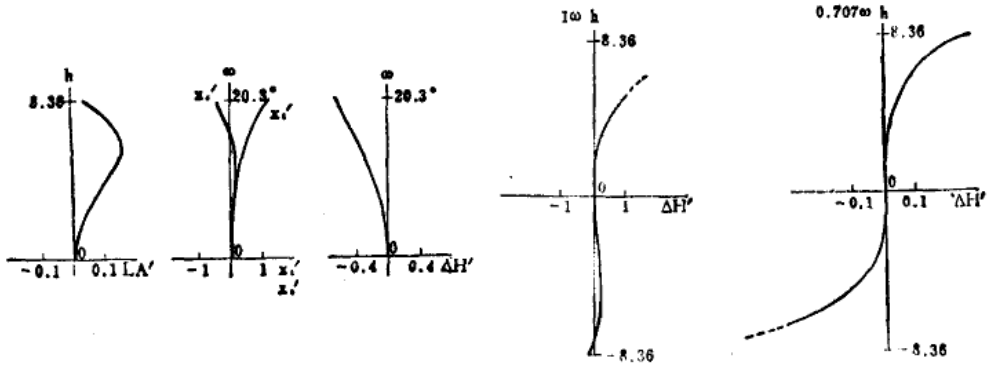
E . F . L = 58.62

＊＊＊r_6 = -17.428; ＊＊＊r_7 = 16.116; ＊＊＊r_8 = 169.741

＊＊＊d_6^* = 12.85* = 10.85 + 2.00; ＊＊＊d_6 = 0.80; ＊＊＊d_7 = 2.00

＊＊＊n_5 = 1.00000; ＊＊＊n_6 = 1.69680; ＊＊＊n_7 = 1.54869

＊＊＊v_6 = 55.5; ＊＊＊v_7 = 45.6



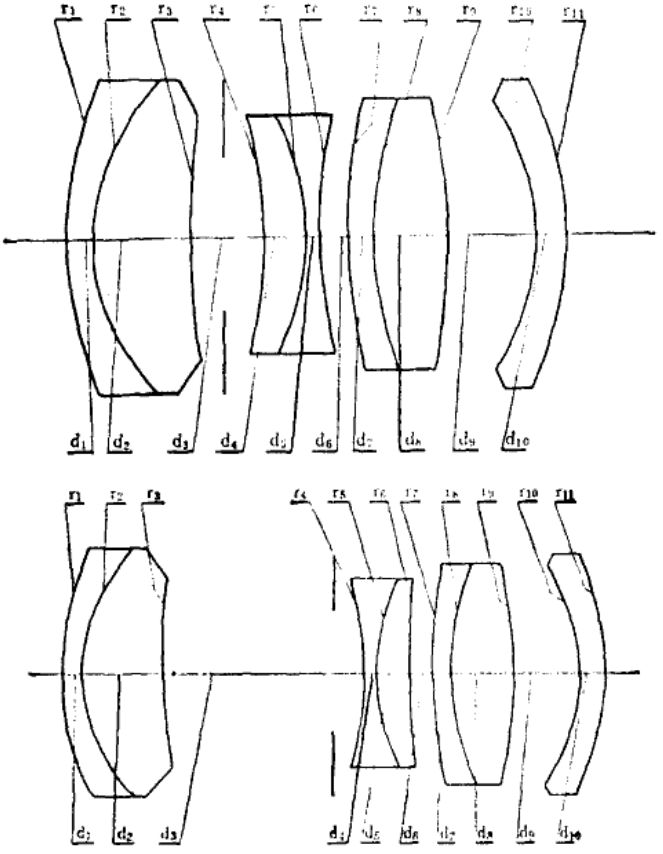
注：镜头是可以转换的，＊＊＊(r_i, d_{i-1}, n_{i-1}) 是可转换部分的结构参数。镜头是间断性变倍。B . F . L 是定值。

编号：10-07-004

转 换 式 变 倍 物 镜

短焦点E.F.L＝40.99　　长焦点E.F.L＝58.48　　B.F.L＝22.31

FNo.＝3.5　　F.A.＝±27.8°（短焦）　　F.A.＝±20.3°（长焦）



序　号	r	d	n	v
1	16.985	1.30	1.75520	27.5
2	11.422	5.14	1.69680	55.5
3	47.278	＊＊＊d_3*	＊＊＊n_3	
4	＊＊＊r_4	＊＊＊d_4	＊＊＊n_4	＊＊＊v_4
5	＊＊＊r_5	＊＊＊d_6	＊＊＊n_5	＊＊＊v_5
6	＊＊＊r_6	1.50		
7	41.641	1.30	1.59270	35.3
8	22.440	3.88	1.77250	49.6
9	−34.586	4.28		
10	−11.246	1.70	1.51742	52.3
11	−15.420			

10-07-004-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0065	0.0069	0.0161	0.0483	0.1163	21.6	−0.68%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.009	−0.14	−0.22	−0.22	0	−0.073	−0.028
70	0.046	−0.08	0.57	0.41	0.16	0.028	0.026

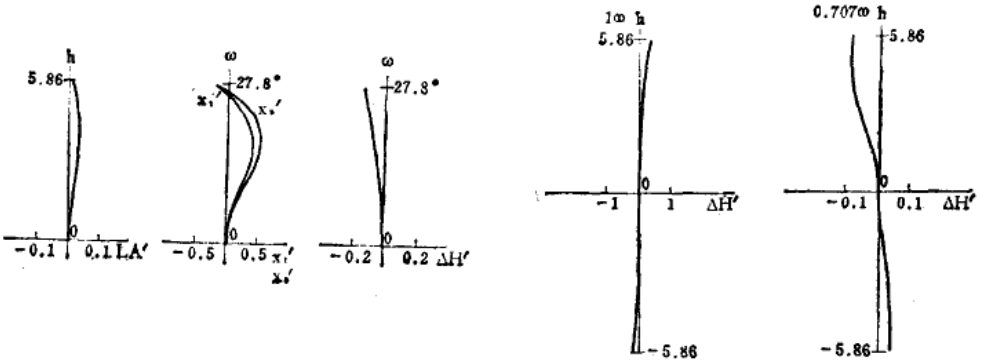
E. F. L = 40.99

＊＊＊r_4 = −25.038; ＊＊＊r_5 = −14.204; ＊＊＊r_6 = 23.346

＊＊＊d_3^* = 3.86* = 1.86 + 2.00; ＊＊＊d_4 = 2.00; ＊＊＊d_5 = 0.80

＊＊＊n_3 = 1.00000; ＊＊＊n_4 = 1.77250; ＊＊＊n_5 = 1.53172

＊＊＊ν_4 = 49.6; ＊＊＊ν_5 = 48.9



10-07-004-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0177	−0.0043	−0.0007	0.0224	−0.2726	21.6	−3.5%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.100	−0.76	1.20	−0.24	1.44	−1.315	−0.498
70	0.109	−0.37	0.35	0.16	0.19	0.098	−0.024

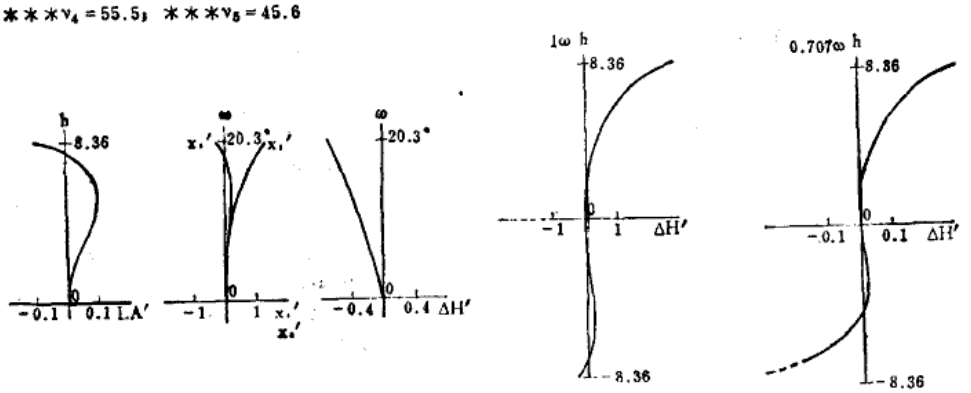
E. F. L = 58.48

＊＊＊r_4 = −20.410; ＊＊＊r_5 = 13.028; ＊＊＊r_6 = 82.472

＊＊＊d_3^* = 12.11* = 10.11 + 2.00; ＊＊＊d_4 = 0.80; ＊＊＊d_5 = 2.00

＊＊＊n_3 = 1.00000; ＊＊＊n_4 = 1.69680; ＊＊＊n_5 = 1.54869

＊＊＊ν_4 = 55.5; ＊＊＊ν_5 = 45.6



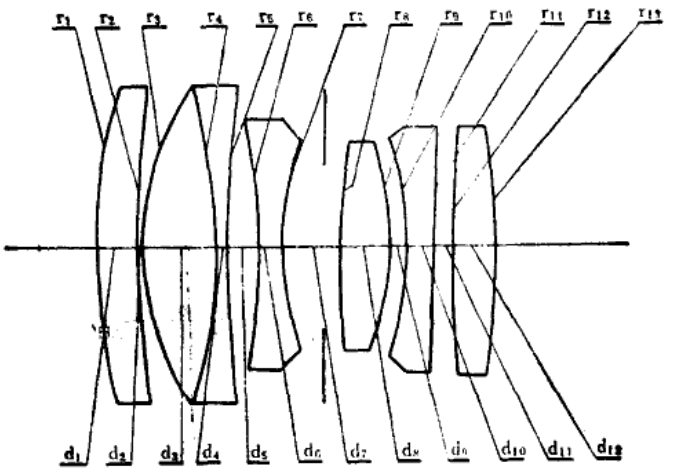
注：镜头是可以转换的，＊＊＊(r_i, d_{i-1}, n_{i-1}) 是可转换部分的结构参数。镜头是间断性变倍。B. F. L 是定值。

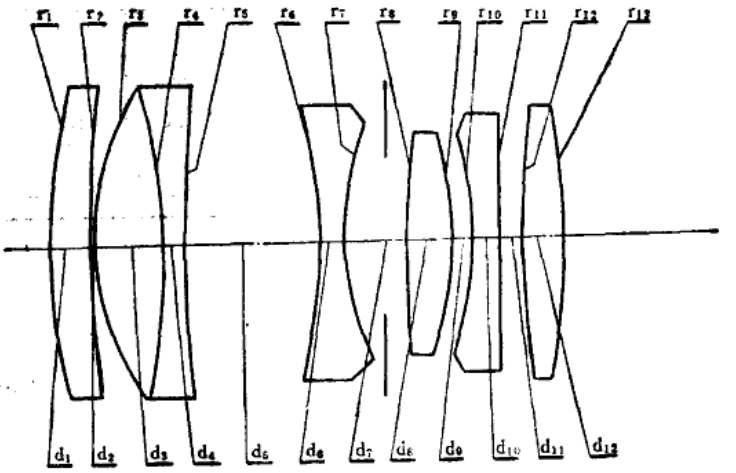
编号: 10-07-005

转 换 式 变 倍 物 镜

短焦点E.F.L＝40.41　　长焦点E.F.L＝58.59　　B.F.L＝28 99

FNo.＝3.5　　F.A.＝±21.6°（短焦）　　F.A.＝±15.3°（长焦）





序号	r_i	d	n	v	序号	r	d	n	v
1	32.450	2.07	1.64000	60.1	8	81.563	2.40	1.67790	55.3
2	72.966	0.15			9	−16.465	1.00		
3	15.079	3.75	1.58913	61.1	10	−17.771	1.20	1.49171	57.4
4	−33.069	0.70	1.58144	40.7	11	243.486	1.00		
5	74.287	$***d_5$	$***n_5$		12	68.499	2.00	1.57135	52.9
6	$***r_6$	$***d_6$	$***n_6$	$***v_6$	13	−39.496			
7	$***r_7$	$***d_7$*	$***n_7$	$***v_7$					

10-07-005-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	-0.0594	-0.0115	-0.0057	0.0459	0.0523	16.0	0.83%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{f_1}	$K_{f_{0.7}}$
100	-2.37	0.134	-0.24	0.26	-0.50	-0.164	-0.066
70	-0.91	0.026	0.07	0.30	-0.23	-0.108	-0.051

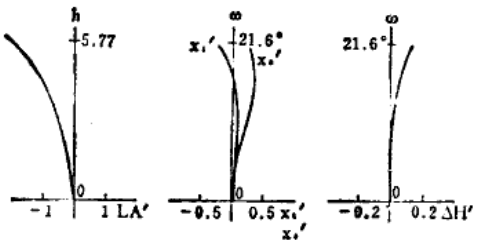
E. F. L = 40.41

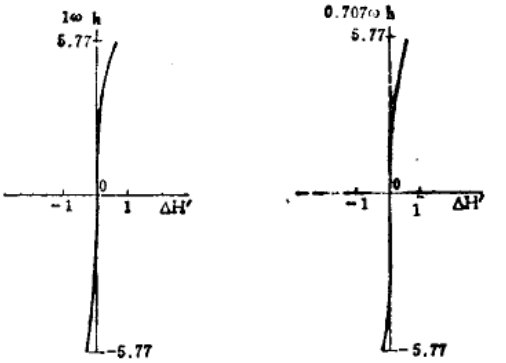
$***r_6 = -36.541$; $***r_7 = 12.022$

$***d_5 = 1.32$; $***d_6 = 1.20$; $***d_7^* = 2.87^* = 1.87 + 1.00$

$***n_5 = 1.00000$; $***n_6 = 1.60562$; $***n_7 = 1.00000$

$***v_6 = 43.7$; $***v_7$





10-07-005-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	-0.0439	0.0121	-0.0574	0.0083	-0.1297	16.0	-4.62%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{f_1}	$K_{f_{0.7}}$
100	-2.33	-0.74	-2.28	-1.66	-0.62	-2.208	-0.342
70	-0.78	-0.22	-1.82	-0.69	-1.13	0.046	0.026

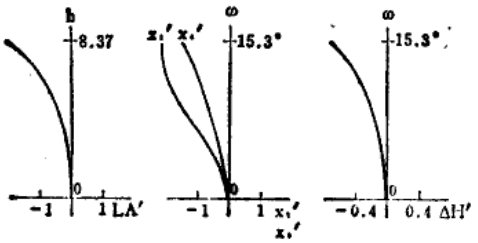
E. F. L = 58.59

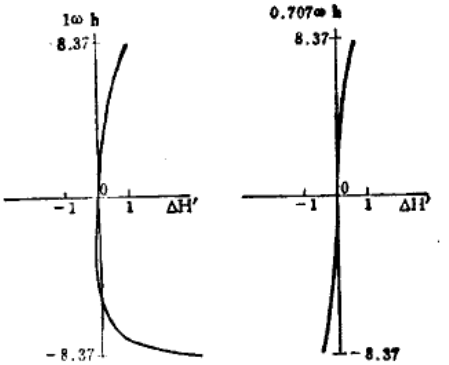
$***r_6 = -38.270$; $***r_7 = 12.791$

$***d_5 = 6.87$; $***d_6 = 1.20$; $***d_7^* = 2.90^* = 1.90 + 1.00$

$***n_5 = 1.00000$; $***n_6 = 1.88300$; $***n_7 = 1.00000$

$***v_6 = 40.8$; $***v_7$



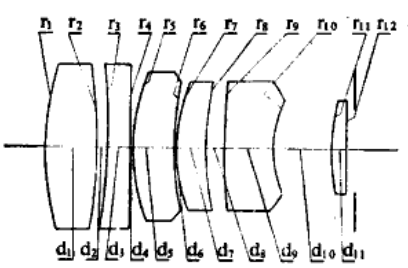


注：镜头是可以转换的。$***(r_i, d_{i-1}, n_{i-1})$ 是可转换部分的结构参数。镜头是间断性变倍。B. F. L是定值。

编号：10-07-006

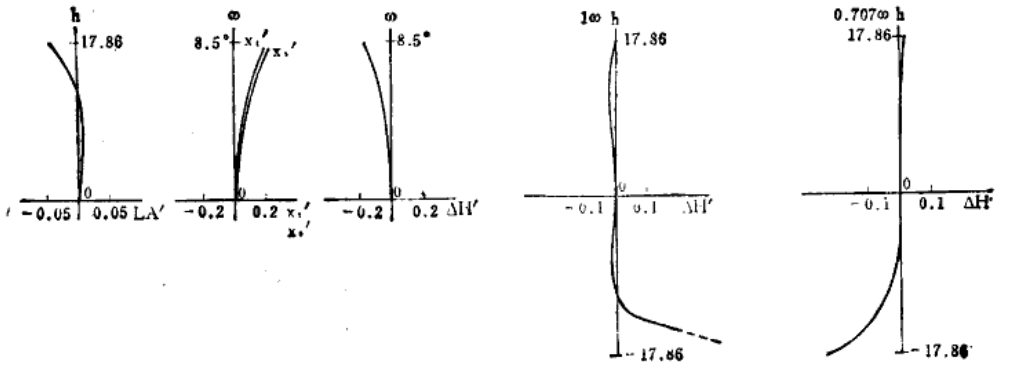
有后光栏的大孔径照相物镜

E.F.L＝100　B.F.L＝34.54　FNo.＝2.8　F.A.＝±8.5°　L'_{P12}＝2.000



序号	r	d	n	v	序号	r	d	n	v
1	65.3546	12.701	1.5687	63.2	7	38.5400	8.310	1.5136	64.1
2	−180.5426	2.303			8	81.0961	4.134		
3	−156.0779	5.778	1.6034	38.0	9	159.3317	12.315	1.7408	27.8
4	308.9377	0.286			10	21.6571	14.832		
5	48.4589	10.269	1.5687	63.2	11	51.8114	4.005	1.6727	32.1
6	74.0163	0.286			12	−385.0579			

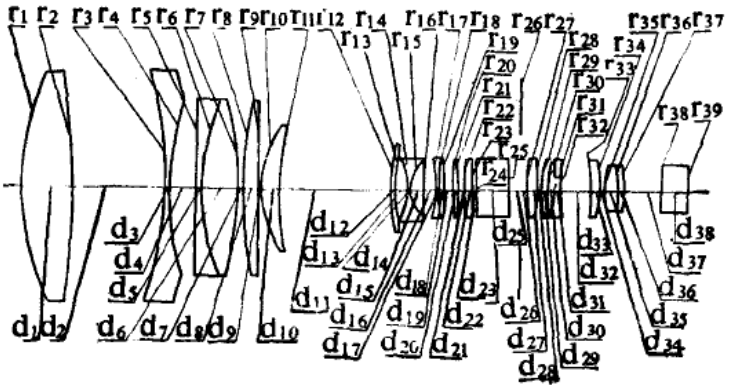
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0025	−0.0079	0.0006	0.0210	−0.0642	14.9	−1.3%
h 或 ω %	LA′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	−0.0469	−0.194	0.19	0.21	−0.02	−3.378	−0.016
70	−0.0004	−0.073	0.10	0.13	−0.03	0.121	0.030



编号：10-07-007

使8mm电视摄影机基准镜头小型化的配有转换镜头的系统

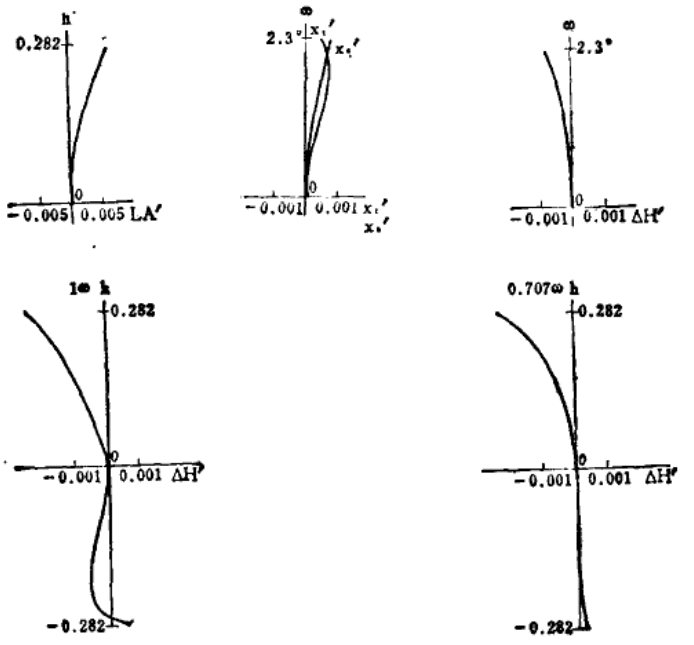
E.F.L＝0.79　　B.F.L＝－0.053　　FNo.＝1.4　　F.A.＝±2.3°



序　号	r	d	n	v	序　号	r	d	n	v
1	1.0889	0.1810	1.51633	64.1	21	－0.6842	0.0017		
2	－3.2592	0.3391			22	0.3703	0.0283	1.60311	60.7
3	－1.4278	0.0396	1.58267	46.4	23	2.0395	0.0113		
4	1.2979	0.0905			24	∞	0.1244	1.51633	64.1
5	－11.1639	0.0283	1.80518	25.4	25	∞	0.0494*		
6	0.9186	0.1244	1.60311	60.7	26	∞	0.0207		
7	－1.3519	0.0017			27	0.4917	0.0385	1.60311	60.7
8	1.8189	0.0509	1.69350	53.2	28	－0.6107	0.0017		
9	∞	0.0017			29	0.2883	0.0283	1.60311	60.7
10	0.4708	0.0679	1.69350	53.2	30	0.9627	0.0197		
11	1.0541	0.4193			31	－0.2944	0.0124	1.80518	25.4
12	0.5399	0.0113	1.77250	49.6	32	1.0357	0.1144		
13	0.1575	0.0588			33	－1.1846	0.0283	1.77250	49.6
14	－0.2290	0.0113	1.71300	53.9	34	－0.2385	0.0017		
15	0.1835	0.0453	1.80518	25.4	35	0.2539	0.0475	1.63636	35.4
16	4.1615	0.0518			36	－0.1786	0.0091	1.80518	25.4
17	－0.2849	0.0113	1.69680	55.5	37	－1.0069	0.1380		
18	2.5637	0.0226	1.75520	27.5	38	∞	0.0769	1.63854	55.4
19	－1.6009	0.0327			39	∞			
20	1.2183	0.0283	1.60311	60.7					

0.0494* = 0.0494 + φ

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00139	0.00017	0.00015	0.00012	−0.00067	0.03	−2.6%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0054	−0.0008	0.00048	0.00078	−0.00030	0.00098	0.00095
70	0.0027	−0.0003	0.00065	0.00046	0.00019	0.00117	0.00060



注：系统中除转换镜头（r_1～r_4）以外的部分为基准镜头。

编号：10-07-007-附

10-07-007的转换镜头

E.F.L＝215981　　B.F.L＝156326　　FNo.＝　　F.A.＝±

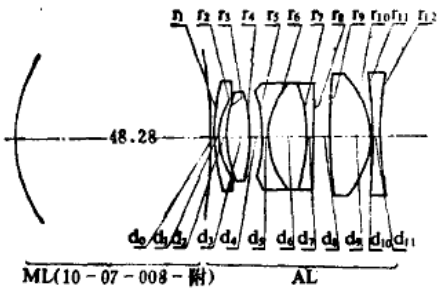
序　号	r	d	n	v
1	1.0889	0.1810	1.51633	64.1
2	−3.2592	0.3391		
3	−1.4278	0.0396	1.58267	46.4
4	1.2979			

编号：10-07-008

放大用照相机辅助镜头（AL）

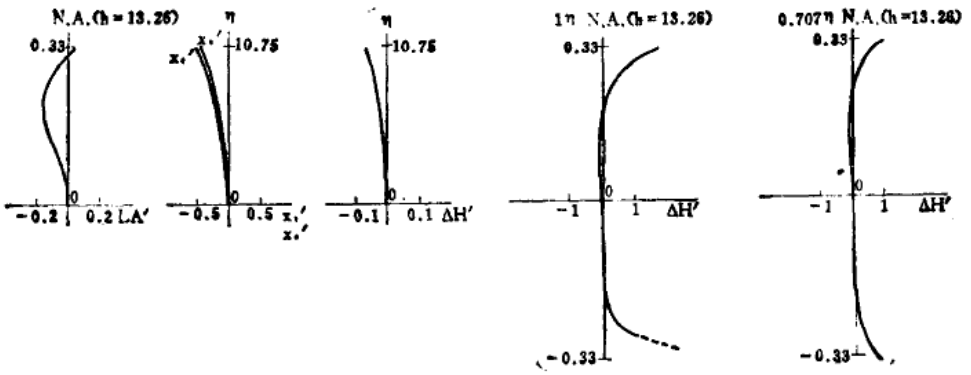
E.F.L＝－74.26　　B.F.L＝40.02　　FNo.＝2.8　　F.A.＝±11.8°

$L_P'^*$＝－3　　β＝2　　d_0＝1　　N.A.＝0.33　　η＝10.75



序号	r	d	n	v	序号	r	d	n	v
1	57.576	1.30	1.69680	55.5	7	－33.745	1.50	1.80610	40.9
2	17.676	1.61			8	1525.980	4.08		
3	26.030	6.60	1.59270	35.3	9	223.683	9.91	1.51633	64.1
4	－38.186	2.90			10	－21.284	0.15		
5	－35.849	1.50	1.78590	44.2	11	－189.009	1.50	1.80610	40.9
6	18.700	9.04	1.56732	42.8	12	74.642			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	－0.056	－0.034	－0.006	－0.027	－0.038	－21.5	0.36%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.057	－0.079	－0.56	－0.55	－0.01	－14.442	0.264
70	－0.192	－0.032	－0.36	－0.29	－0.07	0.959	0.071



注：1.基准镜头（ML）见10-07-008-附；

2.d_0是基准镜头（ML）最后一面到辅助镜头（AL）第一面的距离；

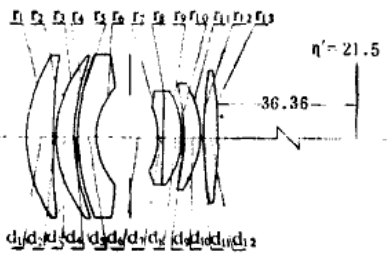
3.β是AL本身的放大率；

4.上表中的像差值是未装ML时，按以下初始条件计算的：l＝35.63，L_{P0}'＝－3，η＝－10.75，h＝13.26。

编号：10 07-008-附

10-07-(008～010)的基准镜头(ML)

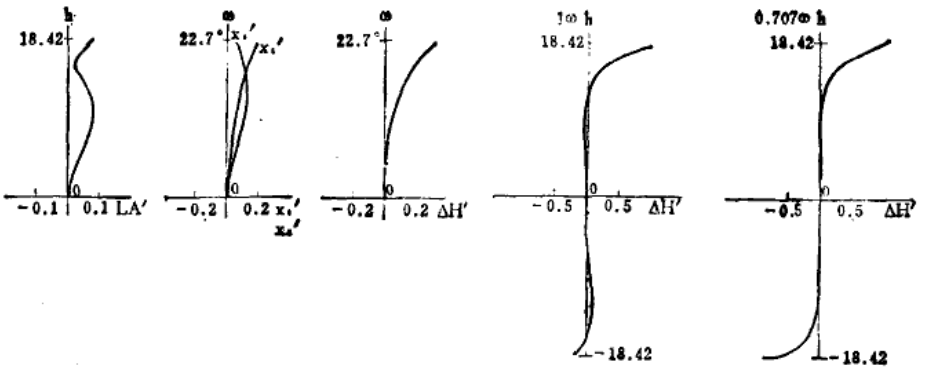
E.F.L=51.59　　B.F.L=36.63　　FNo.=1.4　　F A.=±22.7°



序号	r	d	n	ν	序号	r	d	n	ν
1	36.5070	6.60	1.62041	60.3	8	763.6800	5.99	1.69350	53.2
2	188.7010	0.15			9	-24.8040	0.15		
3	26.2280	4.49	1.69350	53.2	10	-74.8200	4.59	1.80610	40.9
4	46.0220	0.72			11	-25.8206	0.15		
5	59.8560	4.49	1.58215	42.1	12	107.3280	3.10	1.69350	53.2
6	14.9330	16.82°			13	-133.8780			
7	-15.0878	1.03	1.75520	27.5					

$16.82° = 8.41 + 8.41$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.1335	-0.0099	-0.0267	0.1684	0.4352	21.5	1.5%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.092	0.33	0.19	0.06	0.13	-0.481	-0.056
70	0.065	0.12	0.09	0.14	-0.05	-0.165	-0.026

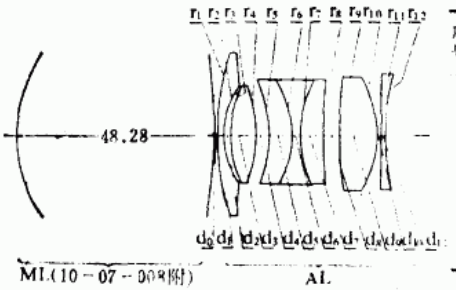


编号：10-07-009

放大用照相机辅助镜头（AL）

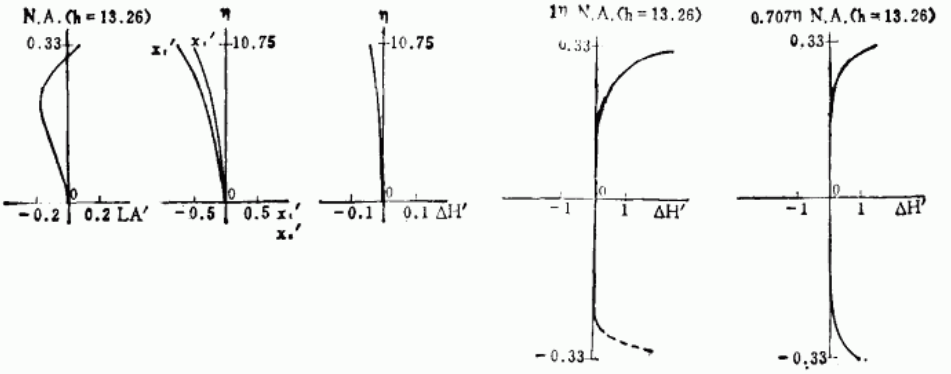
E.F.L＝－78.57　　B.F.L＝40.02　　FNo.＝2.96　　F.A.＝±11.8°

L_P^*＝－3　　β＝2　　d_0＝1　　N.A.＝0.33　　η＝10.75



序号	r	d	n	v	序号	r	d	n	v
1	72.903	1.30	1.69680	55.5	7	18.929	5.20	1.56732	42.8
2	18.055	1.52			8	131.495	4.27		
3	25.928	6.60	1.59270	35.3	9	104.558	9.91	1.51633	64.1
4	－35.553	3.06			10	－20.109	0.15		
5	－36.618	5.20	1.56732	42.8	11	－668.882	1.50	1.80610	40.9
6	－20.509	1.50	1.83481	42.7	12	61.709			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	－0.057	－0.035	－0.006	－0.026	－0.019	－21.5	0.17%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.087	－0.037	－0.74	－0.52	－0.22	－15.101	0.159
70	－0.192	－0.017	－0.42	－0.29	－0.13	1.298	0.108



注：1. 基准镜头（ML）见10-07-008附；

2. d_0是基准镜头（ML）最后一面到辅助镜头（AL）第一面的距离；

3. β是AL本身的放大率；

4. 上表中的像差值是未装ML时，按以下初始条件计算的：

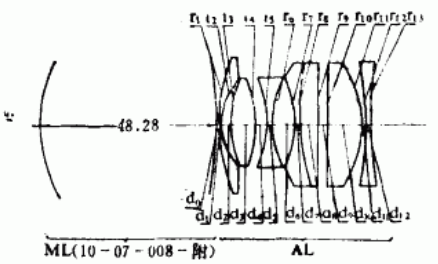
l＝35.63，L_{P_0}＝－3，η＝－10.75，h＝13.26。

编号：10-07-010

放大用照相机辅助镜头（AL）

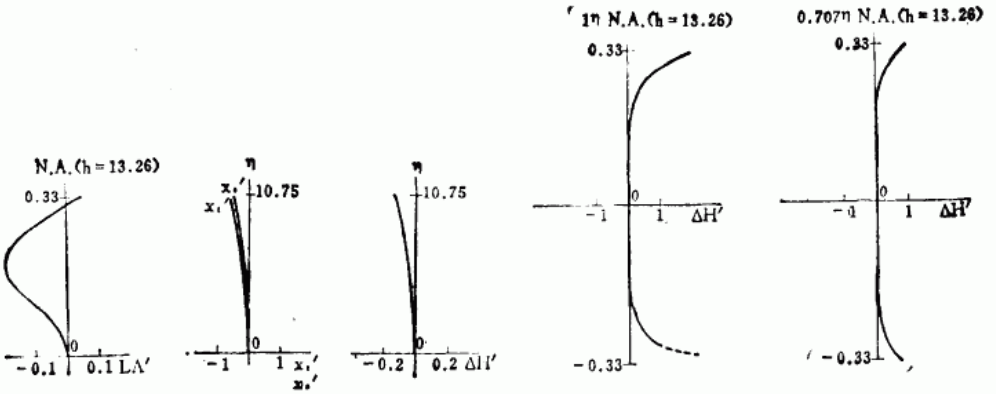
E.F.L＝－76.86　　B.F.L＝40.08　　FNo.＝2.9　　F.A.＝±11.8°

$L_p'^*$＝－3　　β＝2　　d_0＝1　　N.A.＝0.33　　η＝10.75



序号	r	d	n	v	序号	r	d	n	v
1	57.991	1.30	1.69680	55.5	8	81.497	5.00	1.56732	42.8
2	17.663	1.57			9	433.120	2.67		
3	25.897	6.60	1.59270	35.3	10	272.089	9.90	1.51633	64.1
4	－38.287	3.14			11	－21.501	0.15		
5	－35.898	1.50	1.78590	44.2	12	－111.406	1.50	1.80610	40.9
6	23.873	6.00	1.56732	42.8	13	135.806			
7	－32.077	1.50	1.80610	40.9					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	－0.056	－0.034	－0.005	－0.029	－0.045	－21.5	0.69%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.049	－0.148	－0.65	－0.61	－0.04	－13.952	0.240
70	－0.187	－0.057	－0.36	－0.31	－0.05	0.974	0.081



注：1.基准镜头（ML）见10-07-008-附；

2.d_0是基准镜头（ML）最后一面到辅助镜头（AL）第一面的距离；

3.β是AL本身的放大率；

4.上表中的像差值是未装ML时，按以下初始条件计算的：

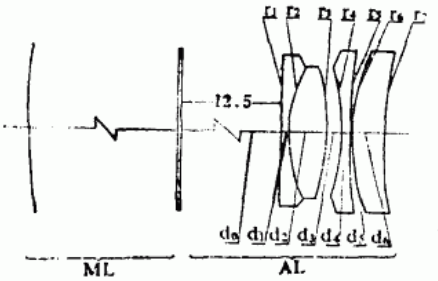
l＝35.63，L_{p0}'＝－3，η＝－10.75，h＝13.26。

编号：10-07-011

放大用照相机辅助镜头(AL)

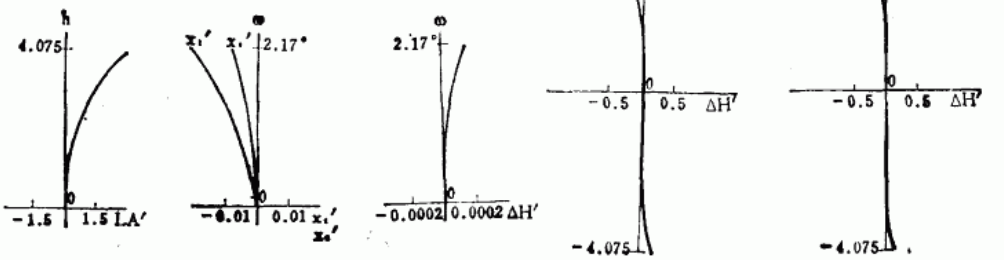
E.F.L＝－34.817　　B.F.L＝－36.02　　FNo.＝4.27　　F.A.＝±2.17°

β＝1.43　　d_0＝12.5



序号	r	d	n	ν	序号	r	d	n	ν
1	86.635	0.375	1.88300	40.8	5	46.647	0.037		
2	7.293	1.856	1.59270	35.3	6	10.710	1.608	1.54814	45.8
3	－10.947	0.691			7	27.746			
4	－11.770	0.375	1.80610	40.9					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.04740	0.00358	－0.00022	－0.00002	－0.00003	－1.32	－0.01%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{t1}'	$K_{T0.7}'$
100	3.07	0.00015	－0.024	－0.008	－0.016	－0.178	－0.044
70	1.09	0.00005	－0.012	－0.004	－0.008	－0.124	－0.030



注：1.基准镜头（ML）的E.F.L＝100；

2.装有ML时，整个系统的E.F.L＝13.73；

3.d_0是ML最后一面到AL第一面的距离；

4.β是AL本身的放大率；

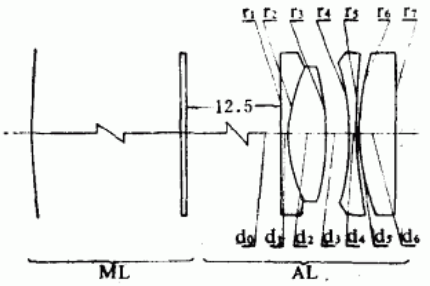
5.上表中的像差值为未装ML时，按 l ＝ －∞计算的。

编号: 10-07-012

放大用照相机辅助镜头(AL)

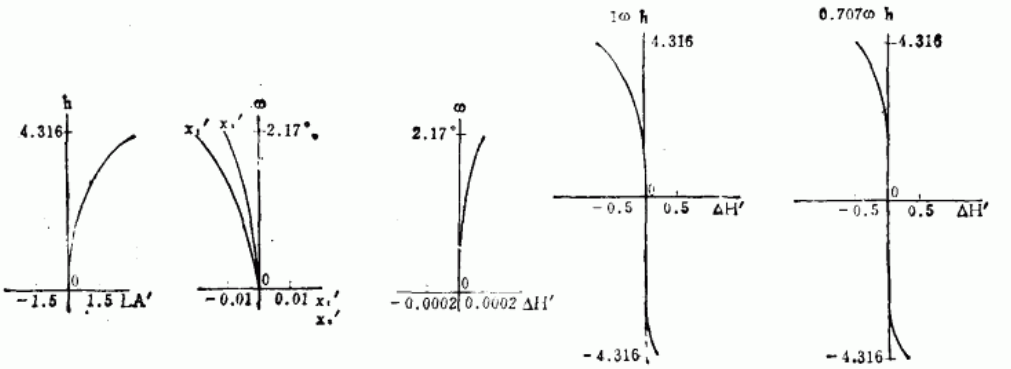
E.F.L = −34.524　　B.F.L = −36.15　　FNo. = 4

F.A. = ±2.17°　　β = 1.43　　d_0 = 12.5



序号	r	d	n	ν	序号	r	d	n	ν
1	7712.880	0.375	1.80400	46.6	5	24.756	0.037		
2	7.042	1.832	1.60342	38.0	6	11.440	1.732	1.54814	45.8
3	−12.805	1.092			7	101.244			
4	−13.726	0.375	1.80610	40.9					

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.05568	0.00407	−0.00020	−0.00009	−0.00003	−1.31	−0.01
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T_1}'	$K_{T_{0.7}}'$
100	3.62	0.00014	−0.022	−0.009	−0.013	−0.249	−0.053
70	1.16	0.00005	−0.011	−0.004	−0.007	−0.173	−0.037



注：1.基准镜头（ML）的E.F.L.=100；

2.装有ML时，整个系统的E.F.L.=13.26；

3.d_0是ML最后一面到AL第一面的距离；

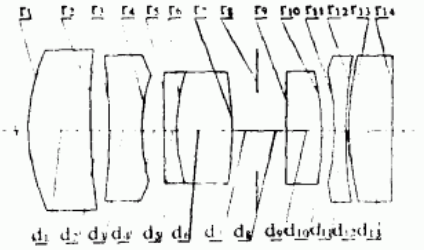
4.β是AL本身的放大率；

5.上表中的像差值是未装ML时，按 1 = −∞计算的。

编号：10-07-013

使照相机小型化的插入式高性能辅助镜头

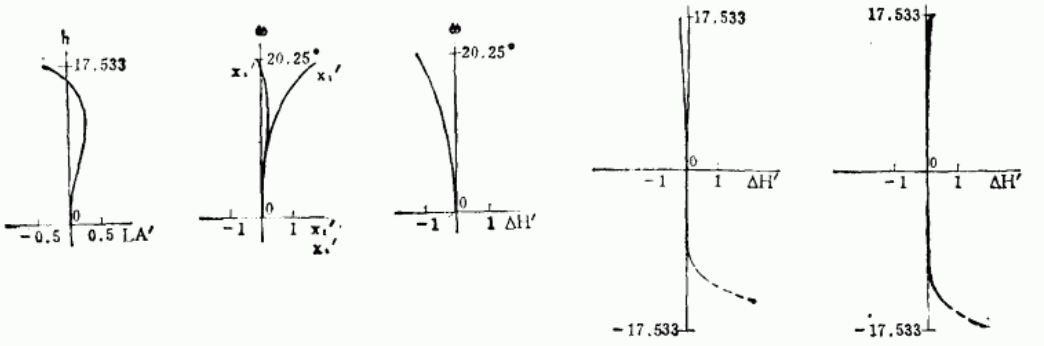
E.F.L＝154.287　　B.F.L＝89.755　　FNo.＝4.4　　F.A.＝±20.25°



序号	r	d	n	v	序号	r	d	n	v
1	34.595	10.717	1.772	49.6	8	∞	4.477		
2	109.667	3.089			9	∞	5.740	1.59270	35.3
3	−158.806	5.266	1.72151	29.2	10	−36.679	2.265		
4	32.754	3.555			11	−33.601	2.159	1.77250	49.6
5	260.171	2.054	1.58144	40.7	12	93.497	0.263		
6	38.414	8.584	1.80610	40.9	13	67.147	6.846	1.49831	65.0
7	−77.985	4.213*			14	−633.479			

4.213* = 4.213 + 0

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.034	−0.018	0.001	0.015	−0.302	56.8	−2.2%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}	$K_{T0.7}$
100	−0.35	−1.25	1.48	−0.16	1.64	6.159	−0.232
70	0.26	−0.45	0.45	0.12	0.33	−4.724	−0.030



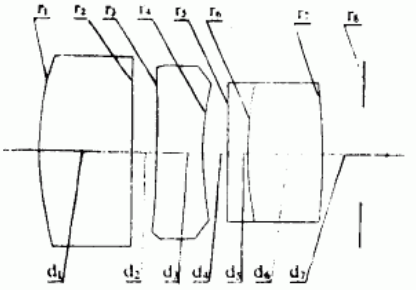
注：1.r_1～r_8为基准镜头（ML）半径，r_9～r_{14}为辅助镜头（AL）半径；

2.E.F.L，B.F.L和上表中的像差值，是基准镜头装有辅助镜头、且按 l = −∞计算的。

编号: 10-07-013-附

10-07-(013～015)的基准镜头 (ML)

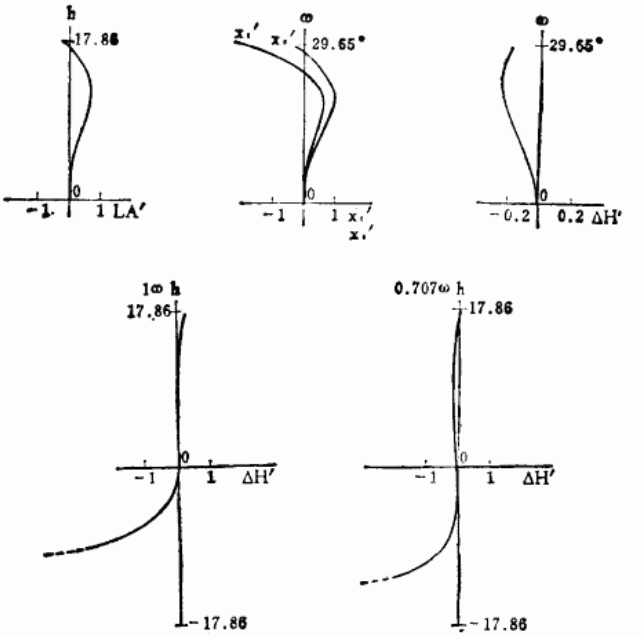
E.F.L=100　　B.F.L=74.54　　FNo.=2.8　　F.A.=±29.65°



序号	r	d	n	v	序号	r	d	n	v
1	34.595	10.717	1.77250	49.6	5	260.171	2.054	1.58144	40.7
2	109.667	3.089			6	38.414	8.584	1.80610	40.9
3	-158.806	5.266	1.72151	29.2	7	-77.985	4.213*		
4	32.754	3.555			8	∞			

4.213* = 4.213 + 0

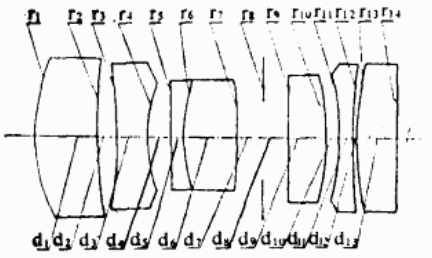
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.144	-0.043	0.003	0.244	-0.166	56.8	-0.3%
h 或 ω %	LA′	ΔH′	x_1'	x_2'	$x_1'-x_2'$	K_{T1}'	$K_{T0.7}'$
100	-0.14	-0.18	-2.40	-0.18	-2.22	15.837	12.014
70	0.70	-0.26	0.74	0.96	-0.22	10.917	1.166



编号：10-07-014

使照相机小型化的插入式高性能辅助镜头

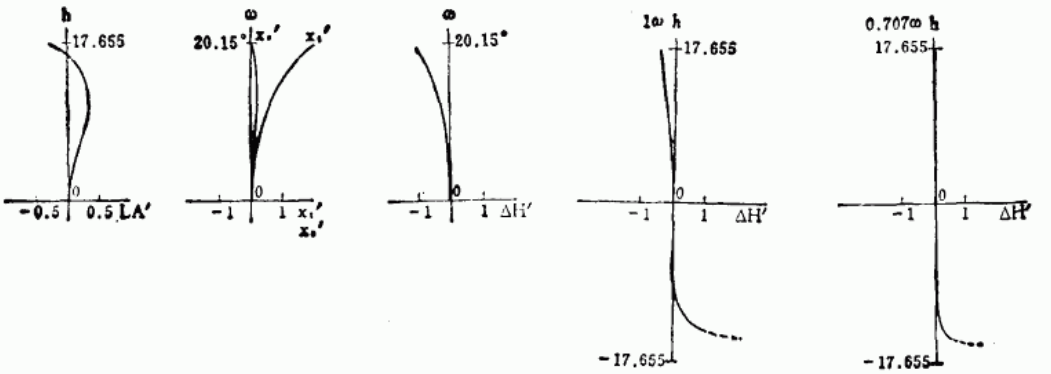
E.F L＝155.37　　B.F.L＝89.71　　FNo ＝4.4　　F.A. ＝±20.15°



序号	r	d	n	ν	序号	r	d	n	ν
1	34.595	10.717	1.77250	49.6	8	∞	4.771		
2	109.667	3.089			9	∞	5.809	1.59270	35.3
3	-158.806	5.266	1.72151	29.2	10	-36.844	2.304		
4	32.754	3.555			11	-33.729	2.330	1.77250	49.6
5	260.171	2.054	1.58144	40.7	12	96.909	0.263		
6	38.414	8.584	1.80610	40.9	13	65.452	6.567	1.46450	66.0
7	-77.985	4.213*			14	-693.008			

4.213* = 4.213 + 0

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.040	-0.017	0.003	0.015	-0.321	57.0	-2.2%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.31	-1.29	2.17	0.02	2.15	7.444	-0.029
70	0.34	-0.47	0.68	0.20	0.48	-3.995	0.015



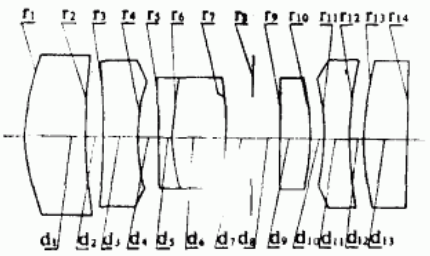
注：1.r_1～r_8为基准镜头（ML）半径，r_9～r_{14}为辅助镜头（AL）半径；

2.E.F.L，B.F.L和上表中的像差值，是基准镜头装有辅助镜头、且按 l = -∞计算的。

编号：10-07-015

使照相机小型化的插入式高性能辅助镜头

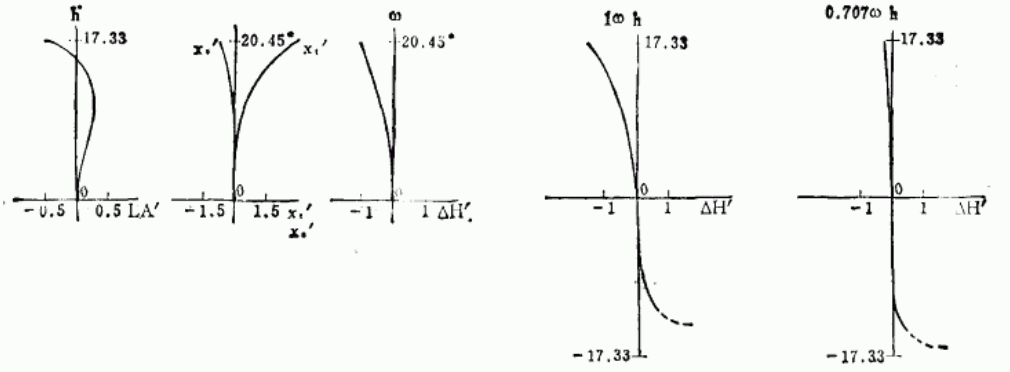
E.F.L＝152.54　　B.F.L＝88.31　　FNo.＝4.4　　F.A.＝±20.45°



序号	r	d	n	v	序号	r	d	n	v
1	34.595	10.717	1.77250	49.6	8	∞	4.474		
2	109.667	3.089			9	∞	5.040	1.59270	35.3
3	−158.806	5.266	1.72151	29.2	10	−37.732	2.286		
4	32.754	3.555			11	−34.630	4.189	1.77250	49.6
5	260.171	2.054	1.58144	40.7	12	61.126	0.263		
6	38.414	8.584	1.80610	40.9	13	55.485	6.981	1.72000	50.2
7	−77.985	4.213*			14	1468.555			

4.213* = 4.213 + 0

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.037	−0.009	0.012	−0.009	−0.266	56.8	−2.2%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.49	−1.28	3.01	−0.69	3.70	6.439	0.031
70	0.29	−0.46	0.84	−0.11	0.95	−3.140	0.046



注：1.r_1～r_8为基准镜头（ML）半径，r_9～r_{14}为辅助镜头（AL）半径；

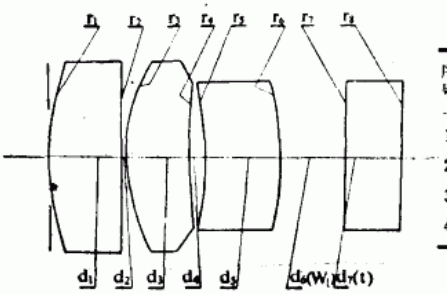
2.E.F.L，B.F.L和上表中的像差值，是基准镜头装有辅助镜头、且按 l = −∞计算的。

编号：10-07-016

高密度情报(视频)记录磁盘物镜

E.F.L=4.5　　B.F.L=0.108　　N.A.=0.0125　　$L'_{p1}=0$　　$\eta=2^{**}$

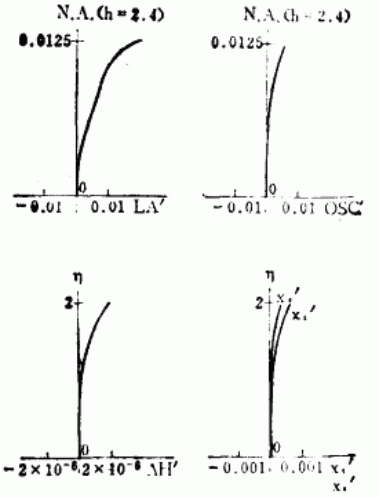
W.D.=192　　$\beta=-1/42^{**}$



序号	r	d	n	ν	序号	r	d	n	ν
1	6.835	1.54	1.74411		5	−7.392	1.52	1.74411	
2	42.333	0.10			6	−6.453	1.35(W_t)		
3	4.125	1.33	1.74411		7	∞	1.20 (t)	1.49000	
4	21.293	0.33			8	∞			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.009496	0.000063	0.000082	0.000090	0.000001	0.0477	0.0039%

N.A. 或 η %	LA′	OSC′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.0212	0.0049	1.8×10^{-6}	0.0006	0.0003	0.0003	0.00162	0.00028
70	0.0073	0.0012	6×10^{-7}	0.0003	0.0001	0.0002	0.00114	0.00020



注：1.记录磁盘为像方，工作距离$W_t=1.35$（小于物距W.D.）；

2.记录磁盘保护玻璃的厚度 t =1.20；

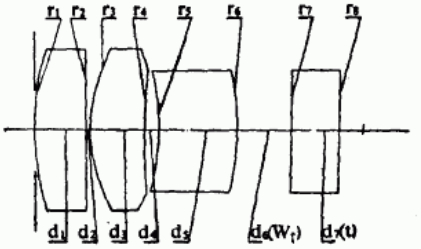
3. n 是 λ =7800Å时的折射率。

编号：10-07-017

高密度情报(视频)记录磁盘物镜

E.F.L＝4.5　　B.F.L＝0.102　　N.A.＝0.0125　　L'_{p1}＝0

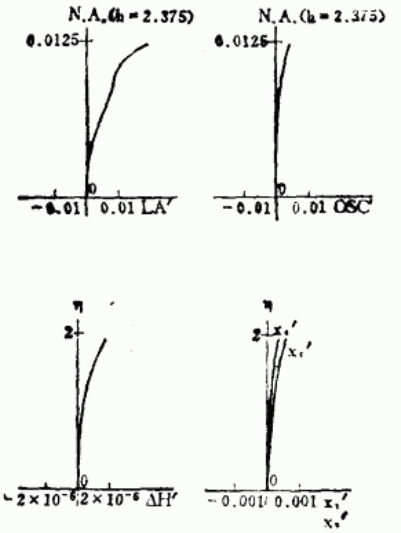
η＝2**　　W.D.＝190　　β＝－1/41.5**



序号	r	d	n	v	序号	r	d	n	v
1	6.892	1.28	1.74411		5	－9.930	1.88	1.86890	
2	39.758	0.10			6	－8.450	1.35(W_t)	•	
3	4.148	1.31	1.74411		7	∞	1.20 (t)	1.49000	
4	22.199	0.30			8	∞			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.009259	0.000164	0.000078	0.000089	0.000001	0.0482	0.0038%

N.A. 或η%	LA′	OSC′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{t1}	$K'_{T0\cdot7}$
100	0.0185	0.0045	1.8×10^{-6}	0.0006	0.0003	0.0003	0.00105	0.00031
70	0.0078	0.0018	6×10^{-7}	0.0003	0.0001	0.0002	0.00074	0.00022



注：1.记录磁盘为像方，工作距离W_t＝1.35（小于物距W.D.）；

2.记录磁盘保护玻璃的厚度 t ＝1.20；

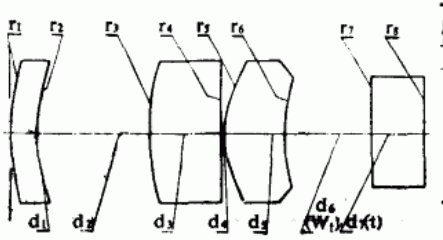
3.n 是 λ ＝7800Å时的折射率。

编号：10-07-018

高密度情报(视频)记录磁盘物镜

E.F.L＝0.9999　　B.F.L＝0.0505　　N.A.＝0.025　　L'_{p1}＝0

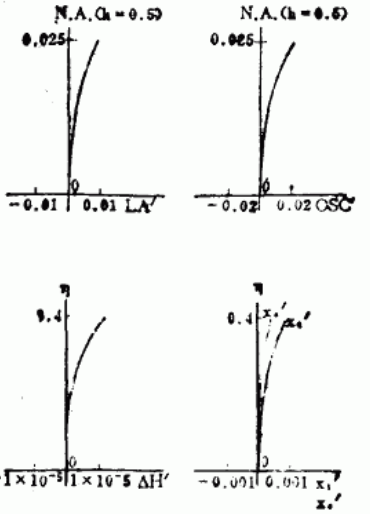
η＝0.4**　　W.D.＝20　　β＝−1/19.8**



序号	r	d	n	v	序号	r	d	n	v
1	1.4710	0.150	1.51072	64.1	5	0.7433	0.325	1.78565	25.4
2	1.0301	0.625			6	1.1992	0.475(W_t)		
3	1.3487	0.375	1.78565	25.4	7	∞	0.300 (t)	1.51072	64.1
4	27.8847	0.025			8	∞			

	ΣS_I	ΣS_{II}	ΣS_{III}	ΣS_{IV}	ΣS_V	HI	QP(1∞)
	0.00472	0.00043	0.00012	0.00004	0.00001	0.0202	0.06%

N.A.或η%	LA′	OSC′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.0093	0.0239	1.2×10^{-5}	0.0008	0.0003	0.0005	0.00193	0.00078
70	0.0047	0.0112	4×10^{-6}	0.0004	0.0001	0.0003	0.00136	0.00054



注：1.记录磁盘为像方，工作距离为W_t(小于物距W.D.)；

2.记录磁盘保护玻璃的厚度 t = 0.300；

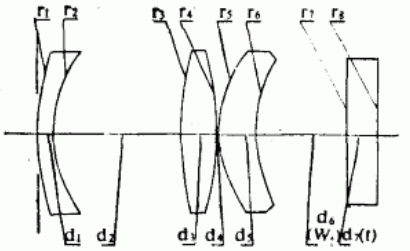
3.n是λ＝7800Å时的折射率。

编号：10-07-019

高密度情报(视频)记录磁盘物镜

E.F.L＝1　　B.F.L＝0.0491　　N.A.＝0.0225　　L'_{p1}＝0

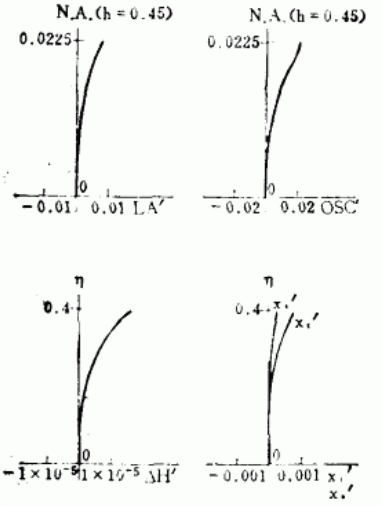
η＝0.4**　　W.D.＝20　　β＝−1/20.3**



序号	r	d	n	ν	序号	r	d	n	ν
1	2.4920	0.150	1.51072	64.1	5	1.0078	0.325	1.82497	23.9
2	1.0350	1.250			6	1.8811	0.848 (W_t)		
3	3.2737	0.375	1.82497	23.9	7	∞	0.300 (t)	1.51072	64.1
4	−3.2564	0.025			8	∞			

ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
0.003367	0.000248	0.000088	0.000023	0.000013	0.0196	0.075%

N.A.或η%	LA′	OSC′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.0078	0.0206	1.4×10^{-5}	0.0006	0.0002	0.0004	0.00189	0.00060
70	0.0038	0.0081	5×10^{-6}	0.0003	0.0001	0.0002	0.00133	0.00042



注：1.记录磁盘为像方，工作距离为W_t（小于物距W.D.）；

2.记录磁盘保护玻璃的厚度 t = 0.300；

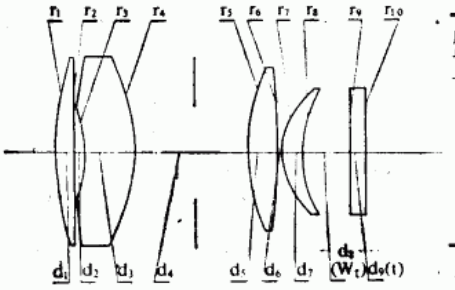
3.n是λ = 7800Å时的折射率。

编号：10-07-020

高密度情报(视频)记录磁盘物镜

E.F.L＝7 699　　B.F.L＝0.0307　　N.A.＝0.02　　η＝2**

W.D.＝140　　β＝－1/19**

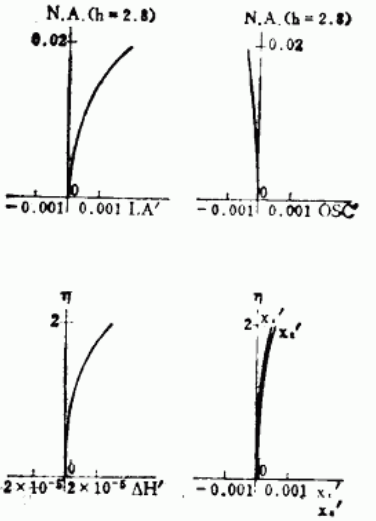


序号	r	d	n	ν	序号	r	d	n	ν
1	23.448	1.192	1.79883		6	－71.963	0.341		
2	186.000	0.800			7	5.336	1.622	1.79883	
3	－10.394	3.903	1.51462		8	8.621	4.000(W_t)		
4	－15.701	9.257*			9	∞	1.300 (t)	1.50000	
5	14.305	2.335	1.79883		10	∞			

9.257* = 5.000 + 4.257

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000534	－0.000060	0.000002	0.000104	0.000020	0.1051	0.026%

N.A.或η%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0019	－0.00047	2.8×10^{-5}	0.0004	0.0004	0	-7.6×10^{-5}	-8.3×10^{-5}
70	0.0009	－0.00032	1.0×10^{-5}	0.0002	0.0002	0	-5.4×10^{-5}	-5.9×10^{-5}



注：1.记录磁盘为像方，工作距离为W_t（小于物距W.D.）；

2.记录磁盘保护玻璃的厚度 t = 1.300；

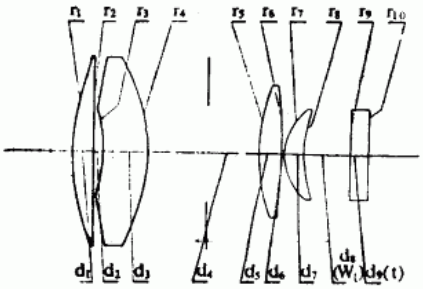
3. n 是 λ = 6328Å 时的折射率。

编号：10-07-021

高密度情报(视频)记录磁盘物镜

E.F.L=7.700　　B.F.L=0.0045　　N.A.=0.02　　η=2**

W.D.=150　　β=−1/20.3**

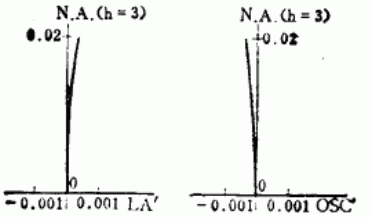


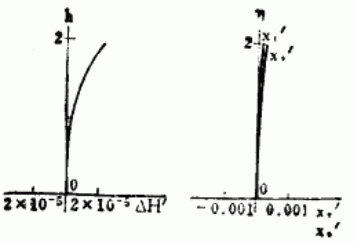
序号	r	d	n	v	序号	r	d	n	v
1	22.359	1.226	1.79883		6	−56.601	0.100		
2	1176.000	0.800			7	5.476	1.617	1.79883	
3	−11.050	3.750	1.51462		8	9.440	4.000(W_t)		
4	−18.846	9.154*			9	∞	1.300 (t)	1.50000	
5	15.202	1.768	1.79883		10	∞			

9.154* = 5.000 + 4.154

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000170	−0.000075	−0.000015	0.000109	0.000017	0.098	0.022%

N.A.或η%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.00029	−0.00048	2.2×10^{-5}	0.00021	0.00032	−0.00011	−0.00003	−0.00008
70	0.00018	−0.00037	7×10^{-6}	0.00010	0.00016	-5×10^{-5}	−0.00002	−0.00005





注：1.记录磁盘为像方，工作距离为W_t(小于物距W.D.)；

2.记录磁盘保护玻璃的厚度 t = 1.300；

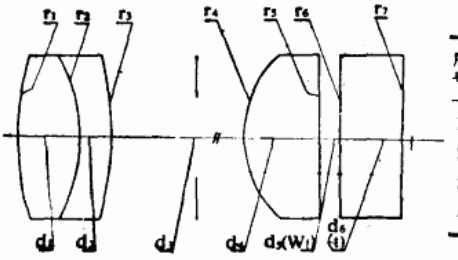
3.n 是 λ = 6328Å时的折射率。

编号：10-07-022

高密度情报(视频)记录磁盘物镜

E.F.L＝1　　B.F.L＝0.0522　　N.A.＝0.0094　　η＝0.4**

W.D.＝35　　β＝－1/35.1**

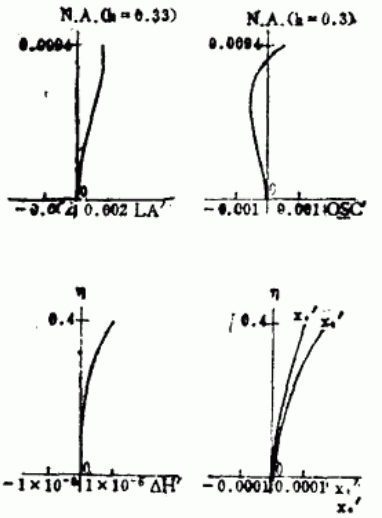


序号	r	d	n	v	序号	r	d	n	v
1	1.555	0.305	1.48601	70.1	5	∞	0.103(W_1)		
2	－0.859	0.151	1.77861	25.7	6	∞	0.300 (t)	1.50000	64.5
3	－1.642	0.832*			7	∞			
4	0.524	0.372	1.51462	64.1					

0.832* = 0.416 + 0.416

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.000808	－0.000018	0.000006	0.000013	6×10^{-7}	0.0113	0.0083%

N.A.或η%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0017	0.00051	9×10^{-7}	0.00016	0.00009	0.00007	1.04×10^{-4}	-2×10^{-6}
70	0.0014	－0.00059	3×10^{-7}	0.00008	0.00004	0.00004	7.3×10^{-5}	-1×10^{-6}



注：1.记录磁盘为像方，工作距离为W_1（小于物距W.D.）；

2.记录磁盘保护玻璃的厚度 t ＝0.300；

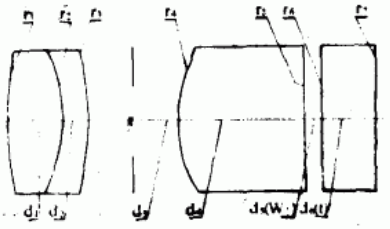
3.n 是 λ ＝6328Å时的折射率。

编号: 10-07-023

高密度情报(视频)记录磁盘物镜

E.F.L= 1　B.F.L=0.0521　N.A. =0.0094　η=0.4**

W.D. =35　β=−1/34.8**

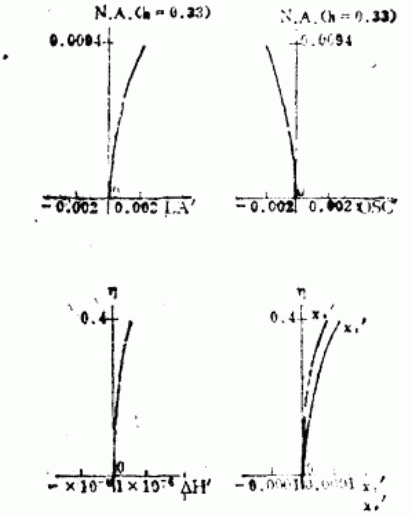


序号	r	d	n	ν	序号	r	d	n	ν
1	2.029	0.305	1.49668	65.0	5	∞	0.099(W_t)		
2	−1.004	0.149	1.77861	25.7	6	∞	0.300 (t)	1.50000	64.5
3	−2.070	0.606*			7	∞			
4	0.878	0.758	1.77861	25.7					

0.606* = 0.303 + 0.303

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.000628	−0.000024	0.000004	0.000010	3×10^{-7}	0.0114	0.0050%

N.A.或η%	LA′	OSC′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0022	−0.0020	5×10^{-7}	0.00012	0.00007	0.00005	-4.0×10^{-5}	-4.0×10^{-5}
70	0.0013	−0.0013	2×10^{-7}	0.00006	0.00003	0.00003	-2.8×10^{-5}	-2.8×10^{-5}



注：1.记录磁盘为像方，工作距离为W，(小于物距W.D.)；

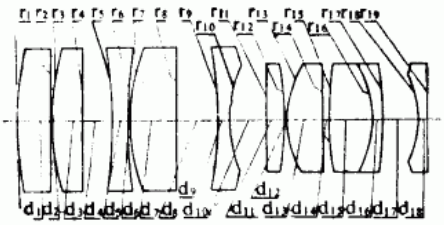
2.记录磁盘保护玻璃的厚度 t = 0.300；

3.n是λ = 6328Å时的折射率。

编号：10-07-024

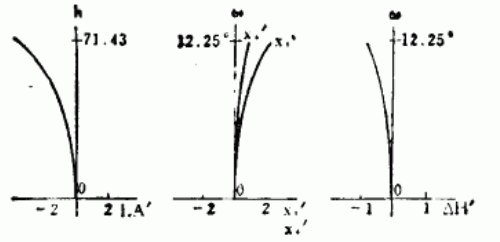
X射线特大孔径摄影物镜

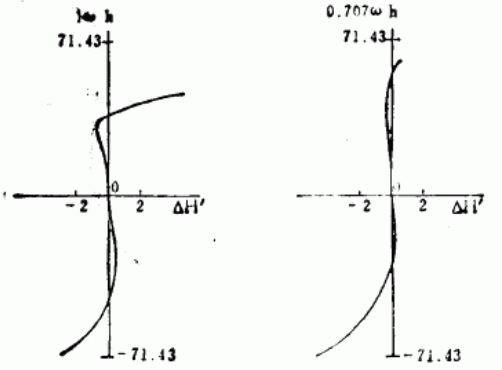
E.F.L=99.975　B.F.L=−11.46　FNo.=0.7　F.A.=±12.25°　$L'_{P1}=0$



序号	r	d	n	v	序号	r	d	n	v
1	229.360	18.72	1.69660	53.11	11	567.660	10.29	1.62540	56.79
2	−1000.320	0.11			12	−188.860	0.11		
3	169.980	17.19	1.69660	53.11	13	61.872	20.88	1.70042	48.22
4	1166.170	16.21			14	−1233.880	3.21		
5	−264.310	7.78	1.81265	25.24	15	284.060	24.23	1.58214	53.47
6	336.100	0.11			16	−59.563	5.79	1.67340	46.95
7	121.220	25.84	1.69675	50.52	17	−220.140	19.07		
8	−502.230	22.96			18	−52.057	5.00	1.81265	25.24
9	−211.780	6.67	1.72311	29.29	19	∞			
10	73.894	20.18							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	−3.382	0.816	0.448	0.267	−0.687	21.7	−3.8%
h或ω%	LA′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	−4.04	−0.83	2.15	0.79	1.36	43.18	−2.24
70	−1.84	−0.25	0.87	0.35	0.52	13.58	0.69

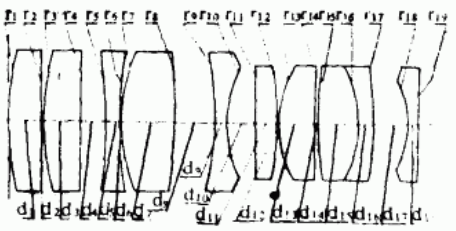




编号：10-07-025

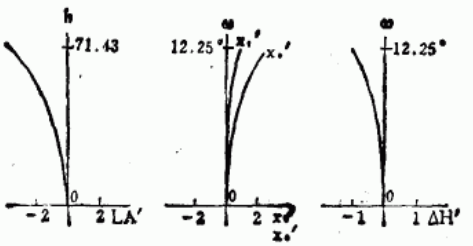
X射线特大孔径摄影物镜

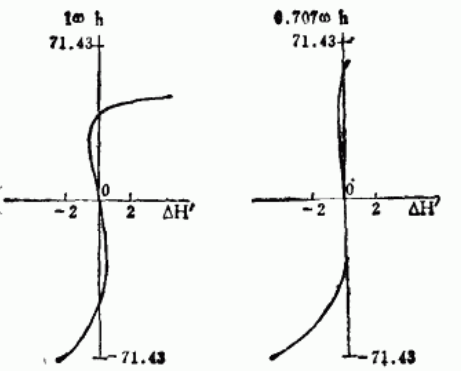
E.F.L＝100.07　B.F.L＝－11.45　FNo.＝0.7　F.A.＝±12.25°　L'_{P1}＝0



序号	r	d	n	v	序号	r	d	n	v
1	228.280	18.44	1.69675	50.52	11	726.580	12.56	1.62287	60.01
2	－1423.800	0.11			12	－181.920	0.11		
3	171.280	20.56	1.69675	50.52	13	64.733	20.22	1.70042	48.22
4	－7232.300	14.00			14	－1085.500	0.11		
5	－228.770	7.78	1.76168	27.30	15	217.330	23.11	1.53430	48.63
6	238.510	0.11			16	－64.551	8.33	1.66152	50.60
7	119.280	29.78	1.69660	53.11	17	－188.640	19.89		
8	－330.630	22.89			18	－50.911	5.00	1.81265	25.24
9	－167.260	6.67	1.72311	29.29	19	∞			
10	76.467	16.78							

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	－3.262	0.835	0.460	0.250	－0.873	21.7	－4.1%
h 或 ω%	LA′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	－4.01	－0.90	2.21	0.80	1.41	－15.34	－2.41
70	－1.81	－0.27	0.89	0.35	0.54	14.62	0.69

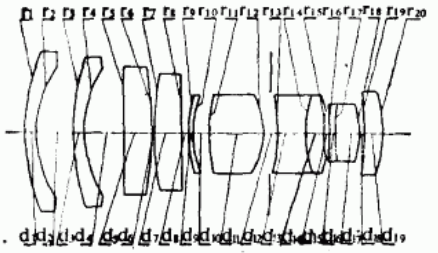




编号：10-07-026

防止近距离摄影像质劣化的反远距型超广角物镜

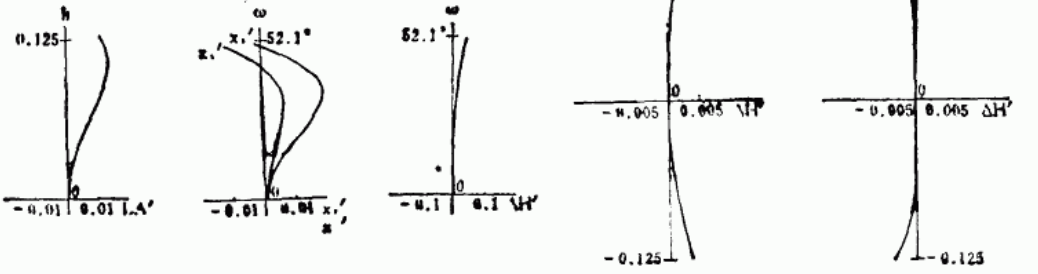
E.F.L＝1　　B.F.L＝2.071　　FNo.＝4　　F.A.＝±52.1°



序号	r	d	n	v	序号	r	d	n	v
1	2.0620	0.1149	1.64000	60.2	11	1.7570	0.5428	1.50137	56.2
2	1.1351	0.3647			12	−0.7380	0.1264*		
3	2.1126	0.1149	1.69680	55.2	13	−1.9668	0.2864	1.56384	60.7
4	1.0458	0.3970			14	1.0706	0.1989	1.72151	29.5
5	16.3170	0.2970	1.68893	31.0	15	2.4788	0.0429		
6	−4.8664	0.0057			16	−2.5459	0.0575	1.92286	20.9
7	3.0284	0.2707	1.64769	33.8	17	2.4755	0.2520	1.48749	69.8
8	−46.1560	＊＊＊1			18	−0.8056	0.0057		
9	1.1520	0.0575	1.77250	49.5	19	−4.7520	0.1645	1.77250	49.5
10	0.4915	0.1571			20	−1.1670			

$0.1264^{*} = 0.0632 + 0.0632$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0012	−0.0005	−0.0007	0.0043	0.0535	1.28	3%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t' - x_s'$	K_{T1}	$K_{T0.7}$
100	0.011	0.038	−0.014	−0.002	−0.012	−0.0026	−0.0015
70	0.013	0.022	0.006	0.019	−0.013	0.0020	0.0007



注：1.

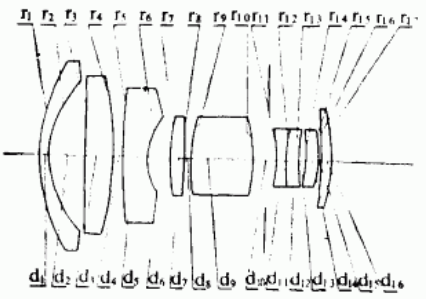
物　距	＊＊＊1 (d_8)
−∞	0.0575
−17.2400	0.0250

2. 上表中的像差值是按 1 = −∞计算的。

编号：10-07-027

防止近距离摄影像质劣化的反远距型广角物镜

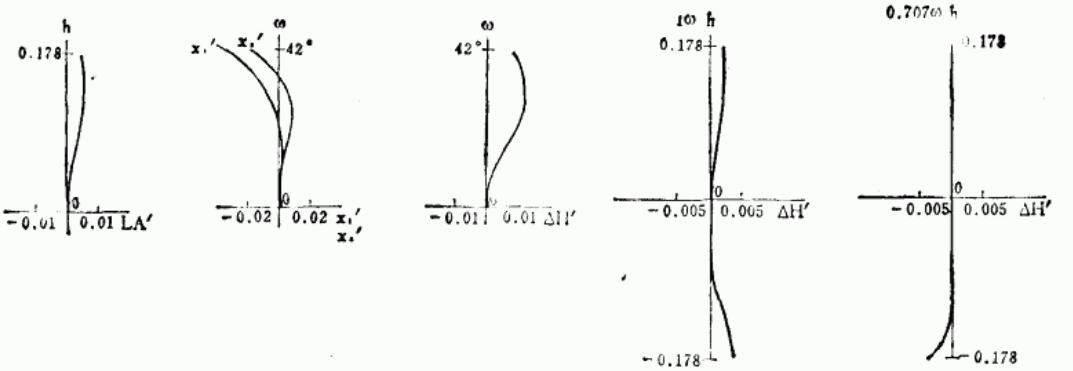
E.F.L=0.997　　B.F.L=1.488　　FNo.=2.8　　F.A.=±42°



序号	r	d	n	ν	序号	r	d	n	ν
1	1.7432	0.0815	1.58913	61.0	10	-0.7111	0.1223*		
2	0.7914	0.3087			11	-0.8777	0.0979	1.80518	25.4
3	17.9249	0.2489	1.58913	61.0	12	2.4012	0.1019	1.72342	37.9
4	-2.8661	＊＊＊1			13	1.5432	0.0489		
5	7.4418	0.2201	1.57957	53.7	14	-4.0265	0.1060	1.71300	53.9
6	0.4674	0.1857			15	-0.8657	0.0061		
7	1.8410	0.1142	1.80518	25.4	16	-4.2395	0.1101	1.71300	53.9
8	-9.2564	0.0041			17	-1.0165			
9	1.3639	0.5027	1.58913	61.0					

0.1223* = 0.0600 + 0.0623

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0010	-0.0002	-0.0007	0.0035	0.0060	0.89	0.82%
h 或 ω%	LA′	ΔH′	x_t	x_s	$x_t - x_s$	K_{T1}	$K_{T0.7}$
100	0.0046	0.0074	-0.044	-0.017	-0.027	-0.0029	-0.0017
70	0.0051	0.0101	-0.004	0.008	-0.012	0.0022	0.0003



注：1.

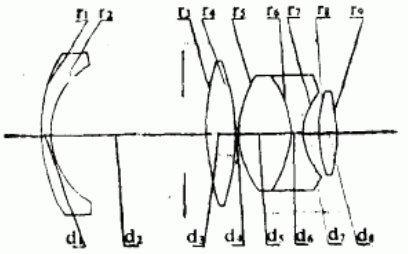
物　距	＊＊＊1 (d_4)
-∞	0.0650
-16.32	0.0040

2. 上表中的像差值是按 l = -∞计算的。

编号：10-07-028

大孔径反远距型工业电视镜头

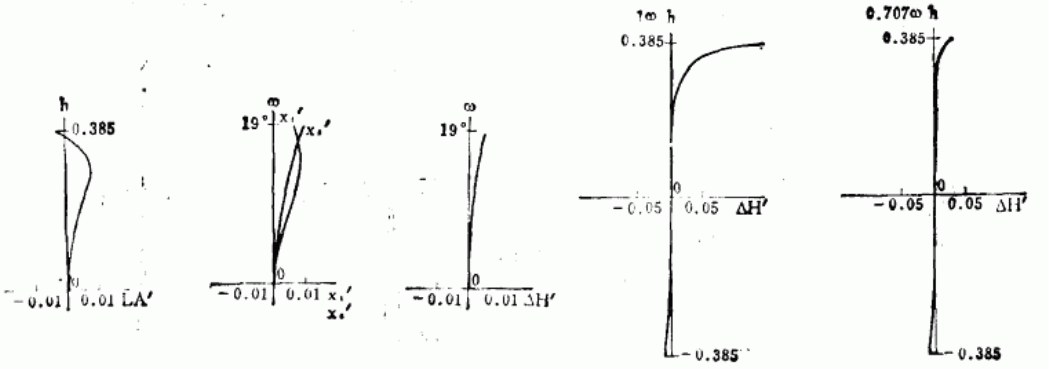
E.F.L=0.9999　　B.F.L=0.6756　　FNo.=1.3　　F.A.=±19°



序号	r	d	n	v	序号	r	d	n	v
1	1.4091	0.0919	1.51633	64.1	6	−0.9321	0.1225	1.75520	27.5
2	0.7200	1.5087*			7	0.5291	0.1391		
3	2.3254	0.2843	1.69350	53.2	8	1.0050	0.1764	1.69350	53.2
4	−2.3254	0.0123			9	−18.4102			
5	0.9321	0.5208	1.72000	43.7					

1.5087* = 1.3000 + 0.2087

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0057	0.0007	0.0014	0.0030	0.0061	0.34	1.6%
h 或 ω %	LA′	ΔH′	x_i'	x_s'	$x_i'-x_s'$	K_{T_1}'	$K_{T_{0.7}}'$
100	−0.0038	0.0055	0.0061	0.0090	−0.0029	−0.0632	−0.0043
70	0.0074	0.0020	0.0083	0.0060	0.0023	−0.0121	0

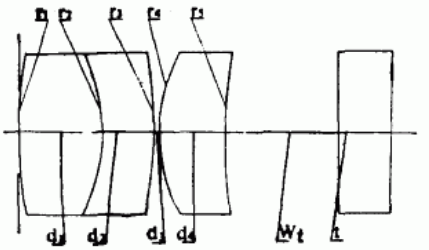


注：从光栏到像面的距离是焦距（E.F.L）的2.26倍。

编号：10-07-029

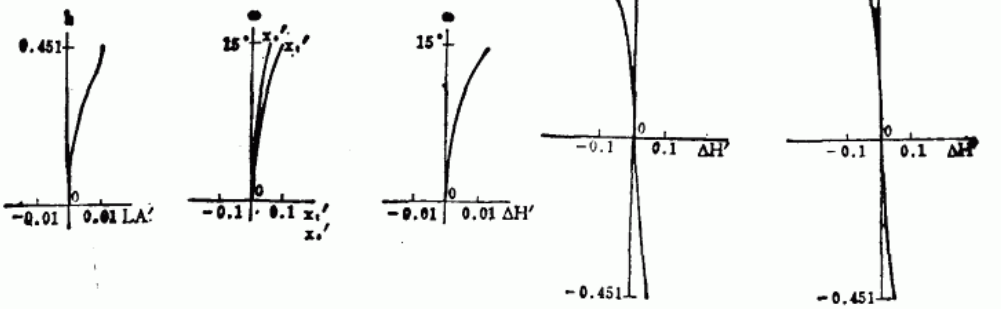
视频测试器聚焦物镜

E.F.L＝1　B.F.L＝0.7298　FNo.＝1.1　F.A.＝±15°**　L'_{P1}＝0



序号	r	d	n	v	序号	r	d	n	v
1	2.6050	0.4070	1.51462	64.1	4	0.7804	0.3256	1.75607	26.6
2	−0.8514	0.2581	1.75607	26.6	5	2.8579	W_t		
3	−2.1127	0.0233			6		t		

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0058	−0.0031	0.0104	0.0091	0.0114	0.26	4.7%
h或ω%	LA′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{f_{0.7}}$
100	0.0110	0.012	0.089	0.044	0.045	0.0065	−0.0032
70	0.0063	0.004	0.046	0.023	0.023	0.0024	−0.0022



注：1. 移动距离W_t＝0.5581；

2. 盖板玻璃的厚度 t ＝0.2558；

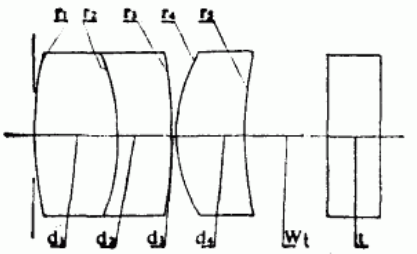
3. 上表中的像差值是按 l ＝−∞计算的；

4. 近距使用条件：η＝0.4**，N.A.＝0.0225，l ＝−20，β＝−1/20。

编号：10-07-030

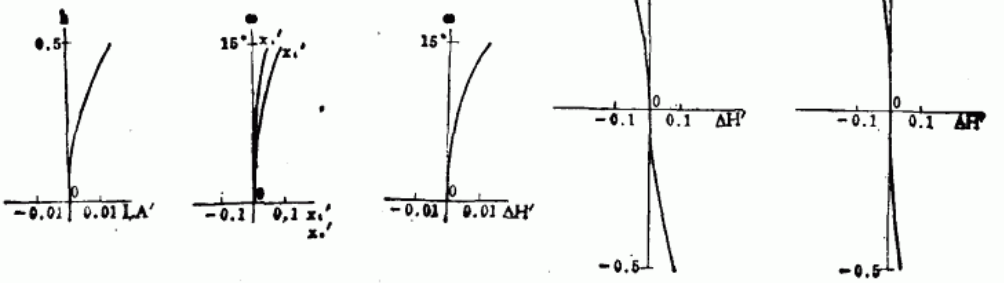
视频测试器聚焦物镜

E.F.L＝1　B.F.L＝0.6833　FNo.＝1　F.A.＝±15°**　L'_{P1}＝0



序号	r	d	n	v	序号	r	d	n	v
1	1.8224	0.4067	1.51462	64.1	4	0.7560	0.3254	1.77861	25.7
2	-1.0188	0.2580	1.77861	25.7	5	2.1852	W_t		
3	-2.7232	0.0232			6		t		

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0081	-0.0039	0.0137	0.0113	0.0124	0.26	4.6%
h或ω%	LA′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.0139	0.012	0.092	0.046	0.046	0.0047	-0.0052
70	0.0075	0.004	0.049	0.023	0.026	0.0012	-0.0032



注：1. 移动距离W_t＝0.5113；

2. 盖板玻璃的厚度 t ＝0.2556；

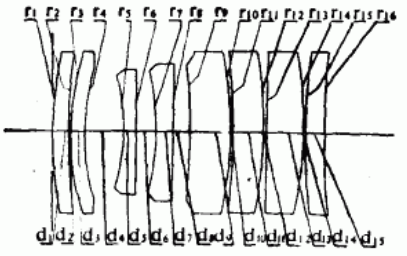
3. 上表中的像差值是按 l ＝－∞计算的；

4. 近距使用条件：η＝0.4**，N.A.＝0.0225，l ＝－20，β＝－1/20。

编号：10-07-031-1

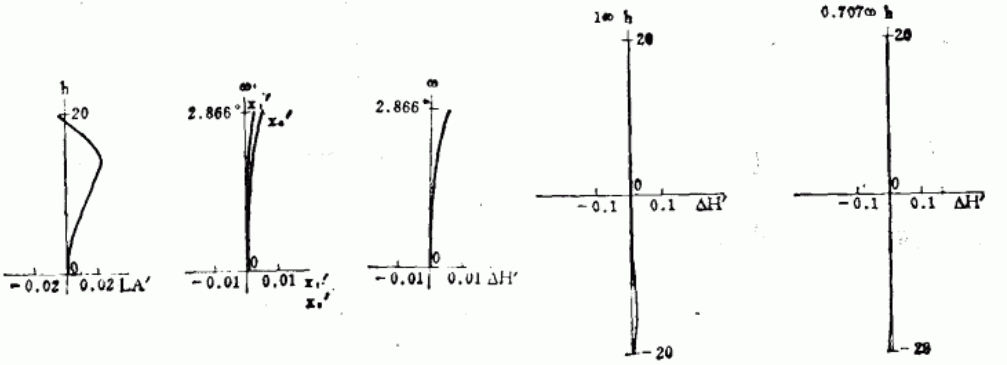
物面到光谱面距离大的傅里叶变换镜头

E.F.L＝100　B.F.L＝122.35　FNo.＝2.5　F.A.＝±2.866°　L'_{P1}＝0



序号	r	d	n	v	序号	r	d	n	v
1	104.199	4.0	1.81958		9	－133.112	9.5	1.81958	
2	291.311	0.1			10	－79.775	0.5		
3	74.841	3.0	1.66726		11	－233.885	8.0	1.81958	
4	62.072	9.5			12	－111.824	0.5		
5	－57.611	3.0	1.66726		13	1744.803	9.0	1.81958	
6	－482.652	5.0			14	－102.579	0.1		
7	－64.327	4.0	1.66726		15	142.239	5.0	1.81958	
8	－742.573	4.0			16	290.092			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0082	－0.0010	-9×10^{-5}	0.0005	0.0024	5	0.12%
h 或 ω%	LA′	ΔH′	x'_t	x'_s	$x'_t-x'_s$	K'_{T1}	$K'_{T0.7}$
100	－0.0066	0.0060	0.0026	0.0048	－0.0022	0.0046	－0.0011
70	0.0243	0.0021	0.0013	0.0024	－0.0011	0.0032	－0.0008



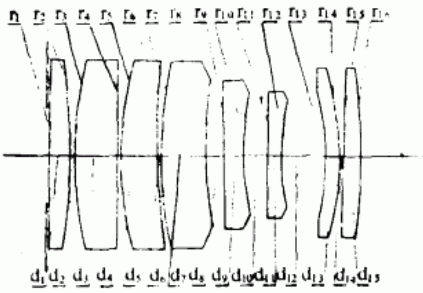
注：1. 入射光线的波长λ＝4880Å；

2. 左方入射。

编号：10-07-031-2

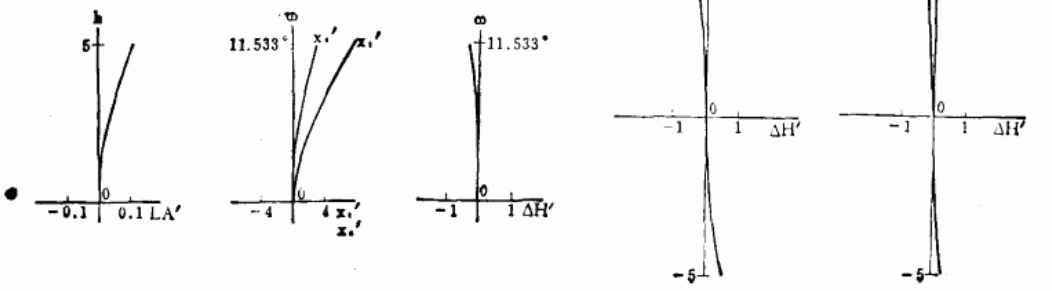
物面到光谱面距离大的傅里叶变换镜头

E.F.L＝100　B.F.L＝40.019　FNo.＝10　F.A.＝±11.533°　L'_{P1}＝0



序号	r	d	n	v	序号	r	d	n	v
1	－290.092	5.0	1.81958		9	742.573	4.0	1.66726	
2	－142.239	0.1			10	64.327	5.0		
3	102.579	9.0	1.81958		11	482.652	3.0	1.66726	
4	－1744.803	0.5			12	57.611	9.5		
5	111.824	8.0	1.81958		13	－62.072	3.0	1.66726	
6	233.885	0.5			14	－74.841	0.1		
7	79.775	9.5	1.81958		15	－291.311	4.0	1.81958	
8	133.112	4.0			16	－104.199			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0005	－0.0027	0.0139	0.0005	0.2853	20.3	－1.7%
h 或 ω %	LA′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K_{T1}	$K_{T0.7}$
100	0.109	－0.360	8.52	2.88	5.64	－0.1025	－0.0511
70	0.054	－0.118	4.25	1.44	2.81	－0.0653	－0.0325



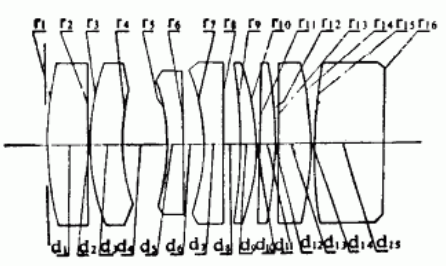
注：1. 入射光线的波长λ＝4880Å；

2. 右方入射。

编号：10-07-032-1

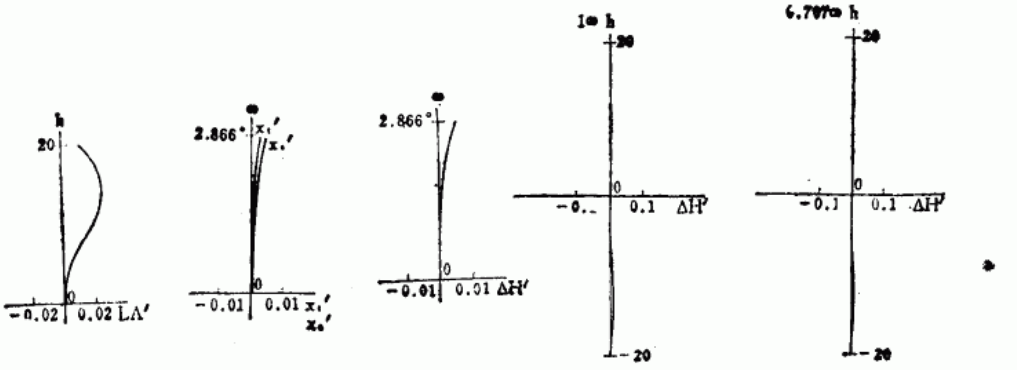
物面到光谱面距离大的傅里叶变换镜头

E.F.L＝99.77　B.F.L＝102.21　FNo.＝2.5　F.A.＝±2.866°　L'_{P1}＝0



序号	r	d	n	v	序号	r	d	n	v
1	90.438	10.0	1.82717		9	−124.467	4.0	1.82717	
2	178.953	0.1			10	−75.406	0.1		
3	65.654	8.0	1.66726		11	−200.555	4.0	1.82717	
4	51.510	11.0			12	−105.622	0.1		
5	−54.096	3.7	1.66726		13	−1985.584	8.0	1.82717	
6	−463.515	5.0			14	−86.817	0.1		
7	−56.448	5.0	1.66726		15	151.771	17.0	1.82717	
8	−429.390	4.0			16	∞			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00783	−0.00029	−0.00004	0.00047	0.00229	4.99265	0.11%
h 或 ω%	LA′	ΔH′	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.012	0.0057	0.0039	0.0050	−0.0011	0.0040	0.0001
70	0.027	0.0020	0.0019	0.0025	−0.0006	0.0031	0.0002



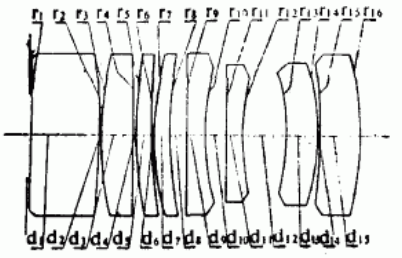
注：1. 入射光线的波长 λ＝4880Å；

2. 左方入射。

编号：10-07-032-2

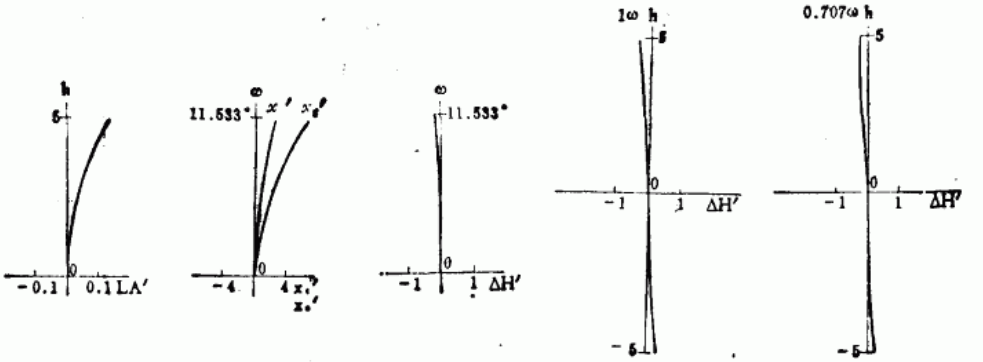
物面到光谱面距离大的傅里叶变换镜头

E.F.L＝99.77　B.F.L＝37.830　FNo.＝10　F.A.＝±11.533°　L'_{P1}＝0



序号	r	d	n	v	序号	r	d	n	v
1	∞	17.0	1.82717		9	429.390	5.0	1.66726	
2	−151.771	0.1			10	56.448	5.0		
3	86.817	8.0	1.82717		11	463.515	3.7	1.66726	
4	1985.584	0.1			12	54.096	11.0		
5	105.622	4.0	1.82717		13	−51.510	8.0	1.66726	
6	200.555	0.1			14	−65.654	0.1		
7	75.406	4.0	1.82717		15	−178.953	10.0	1.82717	
8	124.467	4.0			16	−90.438			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00067	−0.00291	0.01257	0.00049	−0.09700	20.32	−0.86%
h 或 ω%	LA′	ΔH′	x_i'	x_s'	$x_i'-x_s'$	K'_{T1}	$K'_{T0.7}$
100	0.134	−0.17	7.69	2.57	5.12	−0.1042	−0.0519
70	0.067	−0.05	3.82	1.29	2.53	−0.0675	−0.0336



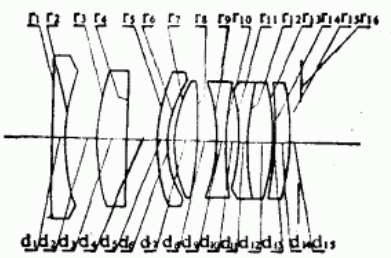
注：1. 入射光线的波长 λ＝4880Å；

2. 右方入射。

编号：10-07-033-1

拍摄或放映宽银幕电影用变形镜头

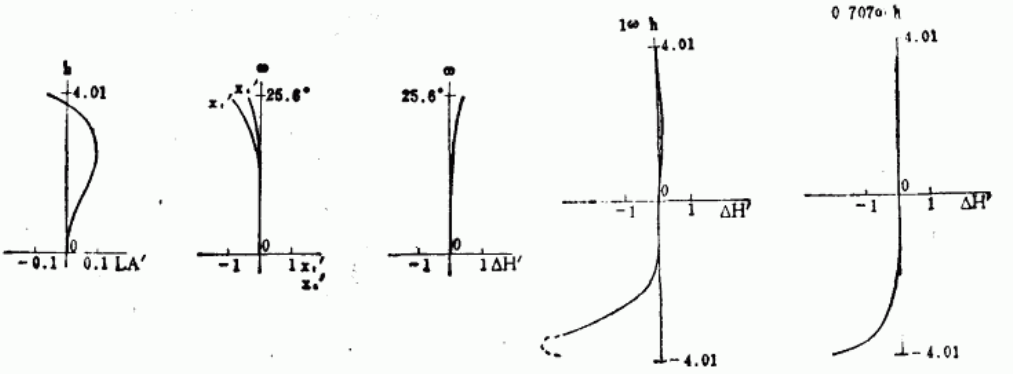
E.F.L＝22.476　　B.F.L＝22.68　　FNo.＝2.8　　F.A.＝±25.6°



序号	r	d	n	v	序号	r	d	n	v
1	∞	1.20	1.62299	58.1	9	−12.000	0.84	1.58913	61.0
2	20.600	3.00			10	20.160	1.27		
3	24.230	3.00	1.67000	57.3	11	−15.800	0.82	1.76182	26.6
4	∞	3.00			12	20.618	2.46	1.77250	49.6
5	18.750	1.00	1.72825	28.5	13	−12.370	0.10		
6	10.794	0.61			14	−42.964	1.41	1.80610	40.9
7	12.059	2.37	1.80610	40.9	15	−15.563	0.85*		
8	−42.520	1.53			16	∞			

0.85*＝0.85＋0

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0251	−0.0132	0.0093	0.0218	0.3413	10.7	2.6%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\acute{r}_1$	$K\acute{r}_{0.7}$
100	−0.088	0.28	−1.07	−0.46	−0.61	−2.923	0.922
70	0.104	0.09	−0.07	0.03	−0.10	1.297	0.140



注：1. r_6～r_{18}是基准镜头半径，基准镜头的焦距为24.496，基准镜头的视场角为±23.4°；

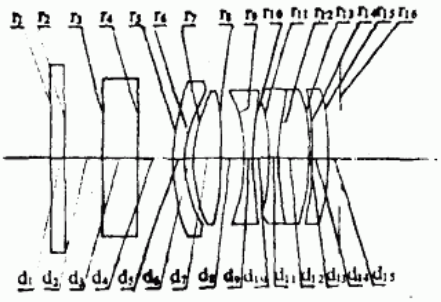
2. r_1～r_4是辅助镜头半径；

3. E.F.L，B.F.L和上表中的像差值是全系统的相应值，此时FNo.＝2.8，F.A.＝±25.6°。

编号：10-07-033-2

拍摄或放映宽银幕电影用变形镜头

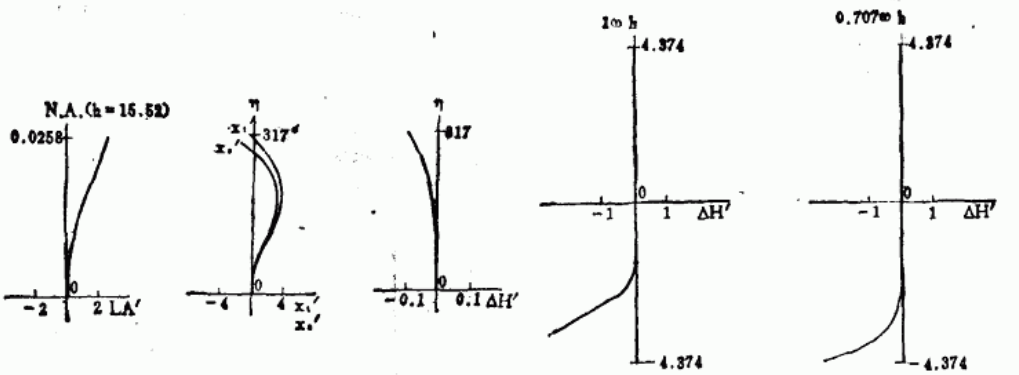
E.F.L=24.496　　B.F.L=22.63　　FNo =2.8　　F.A. = ±23.4°



序号	r	d	n	v	序号	r	d	n	v
1	∞ (r_1')	1.20	1.62299	58.1	9	−12.000	0.84	1.58913	61.0
2	∞ (r_2')	3.00			10	20.160	1.27		
3	∞ (r_3')	3.00	1.67000	57.3	11	−15.800	0.82	1.76182	26.6
4	∞ (r_4')	3.00			12	20.618	2.46	1.77250	49.6
5	18.750	1.00	1.72825	28.5	13	−12.370	0.10		
6	10.794	0.61			14	−42.964	1.41	1.80610	40.9
7	12.059	2.37	1.80610	40.9	15	−15.563	0.85*		
8	−42.520	1.53			16	∞			

0.85* = 0.85 + 0

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.0253	−0.0258	0.0165	0.0285	0.0481	10.5	1%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.080	0.11	−0.41	−0.19	−0.22	−8.030	0.737
70	0.105	0.03	0.16	0.14	0.02	1.265	0.103



注：1. r_8～r_{16}是基准镜头半径，基准镜头焦距和全系统的E.F.L相同，即24.496；

2. r_1～r_4是辅助镜头半径，表示圆柱透镜正交方向的半径；

3. E.F.L，B.F.L和上表中的像差值是全系统的相应值，此时FNo. =2.8，F.A. = ±23.4°。

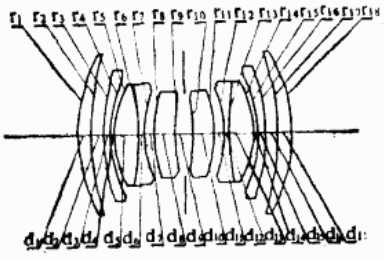
编号：10-07-034

在等倍附近连续变倍的制版机、复印机镜头

E.F.L＝248.83～258.15～249.19　　B.F.L＝376.92～450.48～552.38

FNo.＝8　η＝317.00～222.00～158.60　β＝－0.705～－1.000～－1.410

W.D.＝558.80～447.40～377.40



序号	r	d	n	ν	序号	r	d	n	ν
1	78.65	6.58	1.53996	59.7	10	－95.76	10.43	1.58900	48.6
2	101.29	＊＊＊1			11	－59.50	4.19		
3	96.68	3.29	1.53172	48.9	12	－44.58	2.38	1.62374	47.0
4	64.89	1.48			13	150.04	12.77	1.67790	55.5
5	56.40	12.77	1.67790	55.5	14	－56.40	1.48		
6	－150.04	2.38	1.62374	47.0	15	－64.89	3.29	1.53172	48.9
7	44.58	4.19			16	－96.68	＊＊＊2		
8	59.50	10.43	1.58900	48.6	17	－101.29	6.58	1.53996	59.7
9	95.76	8.43*			18	－78.65			

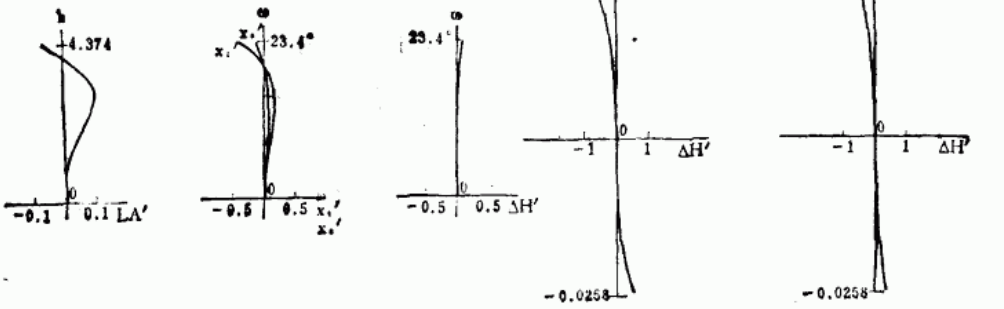
8.43*＝4.215＋4.215

10-07-034-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1∞)
	0.0095	0.0020	0.0018	0.0369	－0.0205	223.6	－0.04%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	2.46	－0.10	－0.59	－2.81	2.22	0.061	0.046
70	1.52	－0.03	3.72	2.84	0.88	0.049	0.030

E.F.L＝248.33　B.F.L＝376.92　N.A.＝0.0258　η＝317.00　β＝－0.705　W.D.＝553.80

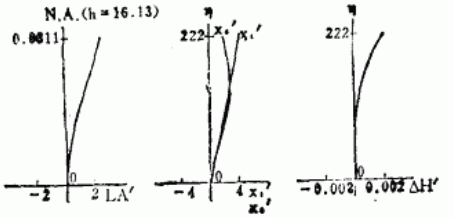
＊＊＊1＝4.80　＊＊＊2＝4.80

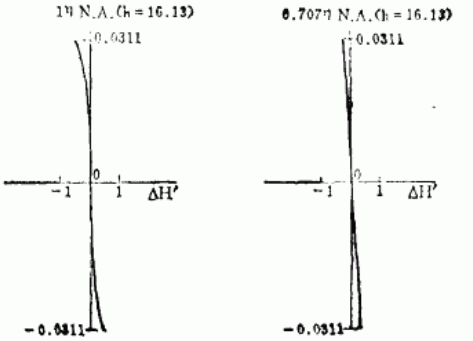


10-07-034-2

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0079	-8×10^{-5}	−0.0027	0.0266	4×10^{-5}	223.3	0.0008%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	2.51	0.0019	4.28	1.71	2.57	−0.0152	−0.0035
70	1.66	0.0005	3.35	3.43	−0.08	−0.0046	−0.0021

E.F.L=258.15 B.F.L=450.48 N.A.=0.0311 η=222.00 β=−1 W.D.=447.40
＊＊＊1=21.40 ＊＊＊2=21.40

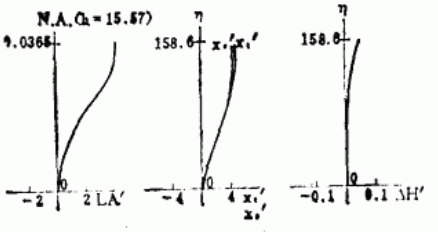


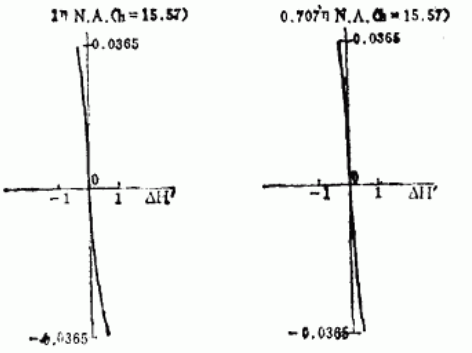


10-07-034-3

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0094	−0.0016	−0.0001	0.0184	0.0049	223.7	0.02%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	4.80	0.04	5.19	4.90	0.29	−0.1013	−0.0509
70	2.98	0.01	4.58	4.58	0	−0.0704	−0.0358

E.F.L=249.19 B.F.L=552.38 N.A.=0.0365 η=158.60 β=−1.41 W.D.=377.40
＊＊＊1=6.30 ＊＊＊2=6.30

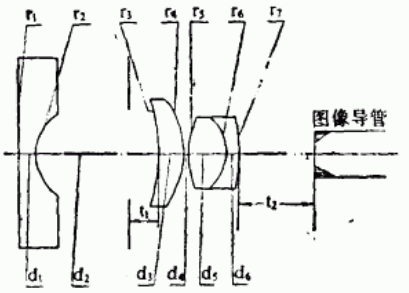




编号：10-07-035

小型广角反远距型内视镜物镜

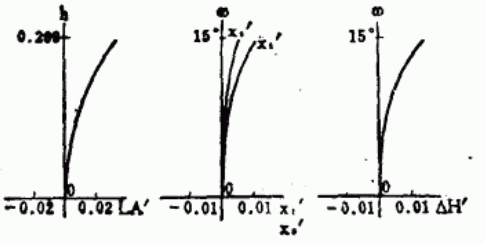
E.F.L＝1.465　B.F.L＝3.128　FNo.＝3.5　F.A.＝±15°**

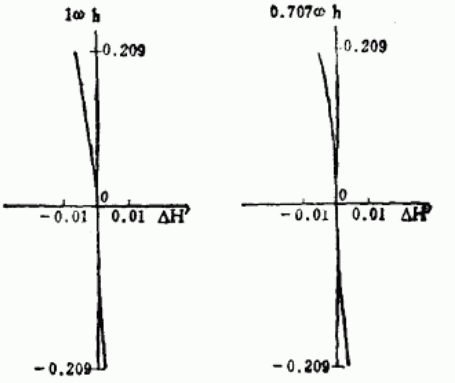


序号	r	d	n	ν	序号	r	d	n	ν
1	∞	0.60	1.51633	64.1	5	3.127	1.60	1.62041	60.3
2	1.685	***1*			6	-2.483	0.55	1.84666	23.9
3	-7.540	1.00	1.69680	55.7	7	-8.619			
4	-3.200	0.20							

***1*＝4.13＋t_1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.00135	0.00051	0.00021	0.00005	0.00228	0.39	3.7%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{t_1}'	$K_{t_{0.7}}'$
100	0.031	0.014	0.0126	0.0049	0.0077	0.0025	0.0016
70	0.016	0.005	0.0036	0.0015	0.0021	0.0013	0.0008





注：1. t_1是光栏离r_3的距离；

2. t_2是最后一面离图像导管的距离；

3.

物距为－∞	物距为－15	物距为－5
t_1＝1.230	t_1＝1.027	t_1＝0.729
t_2＝3.100	t_2＝3.300	t_2＝3.600

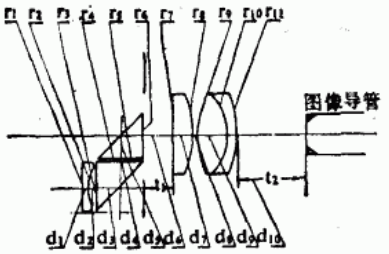
4. 上表中的像差值是按下列条件计算的：l＝－∞，F.A.＝15°；

5. F.A.可达±40°。

编号：10-07-036

小型大孔径反远距型内视镜物镜

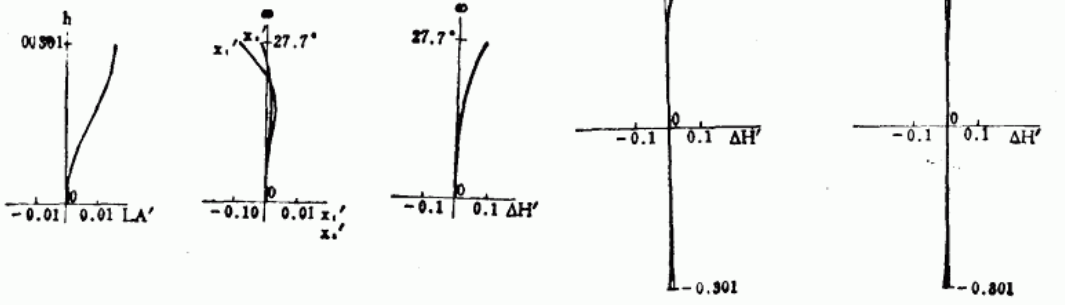
E.F.L＝1.506　　B.F.L＝3.330　　FNo.＝2.5　　F.A.＝±27.7°



序号	r	d	n	ν	序号	r	d	n	ν
1	∞	0.3	1.51633	64.1	7	∞	1.0	1.69680	55.7
2	1.392	0.4			8	−4.090	0.2		
3	∞	2.4	1.80610	40.8(棱镜)	9	3.902	1.5	1.62041	60.3
4	∞	0.1			10	−2.190	0.5	1.78472	25.7
5	∞	2.2	1.80610	40.8(棱镜)	11	−6.541			
6	∞	＊＊＊1*							

＊＊＊ 1* = 0 + t_1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	0.0021	0.0024	0.0010	−0.0001	0.0192	0.78	11.2%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{f_1}	$K_{f_{0.7}}$
100	0.014	0.089	−0.0089	−0.0019	−0.0070	−0.0245	−0.0044
70	0.010	0.030	0.0032	0.0014	0.0018	−0.0089	−0.0001



注：1. t_1是光栏离r_7的距离；

2. t_2是最后一面离图像导管的距离；

3.

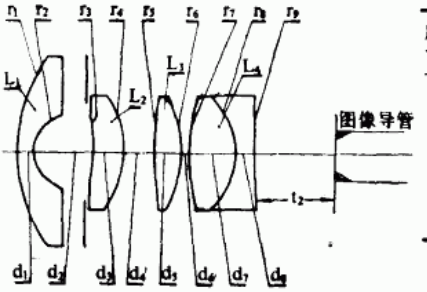
物距为 −∞	物距为 −15	物距为 −7	物距为 −5
t_1 = 1.424	t_1 = 1.200	t_1 = 0.912	t_1 = 0.620
t_2 = 3.331	t_2 = 3.555	t_2 = 3.843	t_2 = 4.135

4. 上表中的像差值是按 l = −∞计算的。

编号：10-07-037-1

小型广角反远距型内视镜物镜

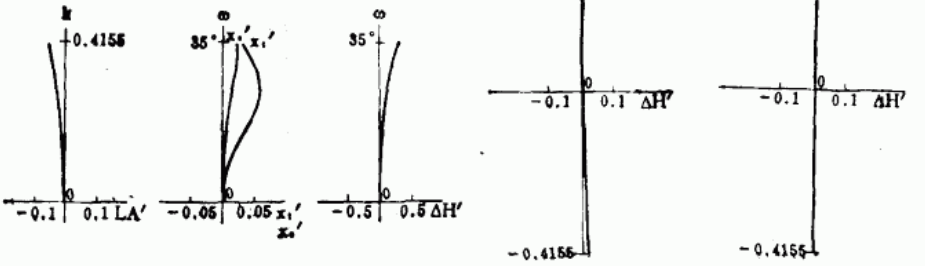
E.F.L=2.721　B.F.L=3.522　FNo.=3.27　F.A.=±35°**



序号	r	d	n	v	序号	r	d	n	v
1	6.888	0.70	1.51633	64.1	6	-5.829	0.20		
2	1.446	***1*			7	7.783	2.00	1.69680	55.7
3	-7.002	1.20	1.69680	55.7	8	-2.831	0.70	1.78472	25.7
4	-3.565	***2			9	43.300			
5	19.657	1.20	1.69680	55.7					

***1* = 2.51* = 2.11 + 0.40

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	-0.0015	-0.0001	0.0027	-0.0004	-0.0323	1.90	15.7%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	Kf_1	$Kf_{0.7}$
100	-0.045	0.29	0.027	0.021	0.006	-0.0246	-0.0108
70	-0.019	0.10	0.055	0.019	0.036	-0.0047	-0.0024



注：1. 最后一面离图像导管的距离t_2 = 3.522；

2. L 表示镜片，L_i表示第 i 组镜片；

3. L_3、L_4移动时：

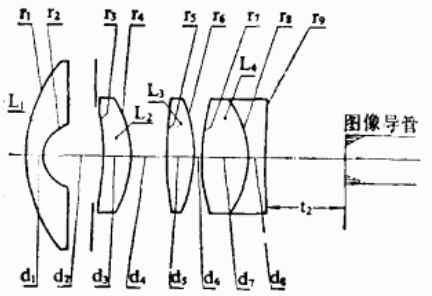
物　距	***1* (d_3^*)	***2 (d_4)
-∞	2.51	1.50
-4	2.51	0.43

4. 上表中的像差值是按 l = -∞计算的。

编号：10-07-37-2

小型广角反远距型内视镜物镜

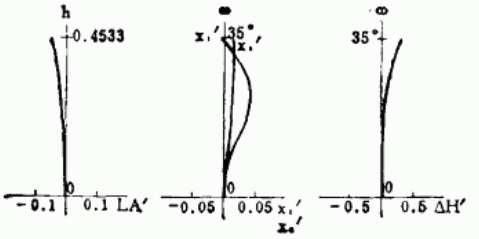
E.F.L＝2.711　　B.F.L＝3.523　　FNo.＝2.99　　F.A.＝±35°

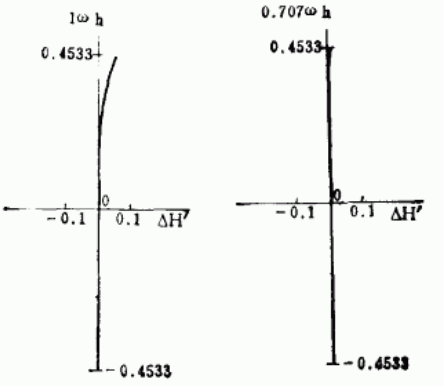


序号	r	d	n	v	序号	r	d	n	v
1	6.888	0.70	1.51633	64.1	6	－5.829	0.20		
2	1.446	＊＊＊1*			7	7.783	2.00	1.69680	55.7
3	－7.002	1.20	1.69680	55.7	8	－2.831	0.70	1.78472	25.7
4	－3.565	＊＊＊2			9	43.300			
5	19.657	1.20	1.69680	55.7					

＊＊＊1*＝2.11＋(0.39＋Δ＊＊＊1)

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1ω)
	－0.0021	0.0002	0.0031	－0.0005	－0.0357	1.89	15.5%
h 或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	$K\acute{T}_1$	$K\acute{T}_{0.7}$
100	－0.055	0.295	－0.0048	0.0144	－0.0192	－0.0340	－0.0135
70	－0.023	0.099	0.0442	0.0158	0.0284	－0.0040	－0.0019





注：1　最后一面离图像导管的距离t_2＝3.523；

2. L表示镜片，L_i表示第 i 组镜片；

3. L_2移动时：

物　距	＊＊＊1* (d_2^*)	＊＊＊2 (d_4)
－∞	2.50	1.70
－4	4.15	0.05

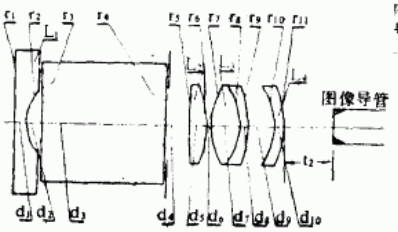
4. 上表中的像差值是按 l ＝－∞计算的；

5. Δ＊＊＊1是光栏离 r_3的距离，随着 l 从－∞～－4的变化而增加的变化量。

编号：10-07-038

小型反远距型内视镜物镜

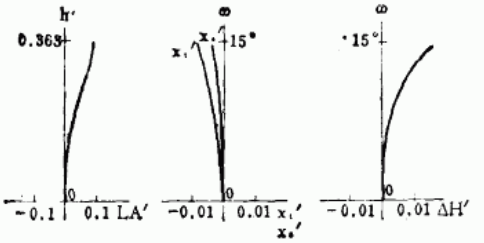
E.F.L＝1.895　　B.F.L＝1.897　　FNo.＝2.61　　F.A.＝±15°**

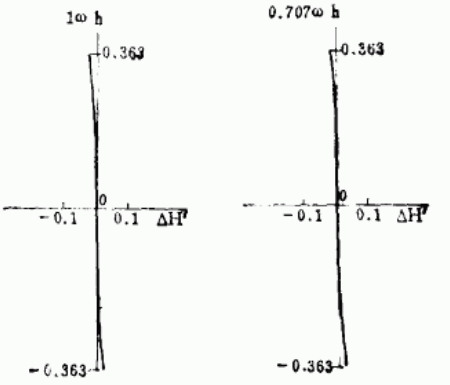


序号	r	d	n	v	序号	r	d	n	v
1	∞	0.60	1.51633	64.1	7	4.254	1.60	1.62041	60.3
2	1.921	0.90			8	−3.883	0.50	1.84666	23.9
3	∞	6.90	1.80610	40.8 (棱镜)	9	−7.972	***2		
4	∞	***1*			10	−3.885	0.50	1.84666	23.9
5	49.257	1.00	1.69680	55.7	11	−6.706			
6	−5.020	0.20							

1*＝0.10＋(1.23－Δ1)

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1ω)
	0.00671	0.00092	−0.00015	−0.00008	0.00297	0.50	3.2%
h或ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{t1}'	$K_{t0.7}'$
100	0.096	0.016	−0.0094	−0.0039	−0.0055	0.0038	0.0022
70	0.047	0.005	−0.0060	−0.0024	−0.0036	0	0.0002





注：1.最后一面离图像导管的距离t_2＝1.897；

2.L表示镜片，L_i表示第i组镜片；

3.L_2、L_3移动时：

物　距	***1* (d_4^*)	***2 (d_9)
−∞	1.33	1.50
−5	0.70	2.13

4.上表中的像差值是按l＝−∞计算的；

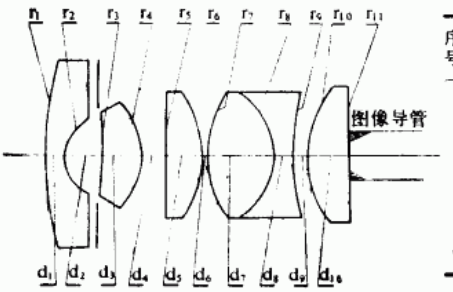
5.Δ***1是光栏离r_5的距离，随着l从−∞～−5的变化而增加的变化量；

6.F.A.可达±40°。

编号：10-07 039

广 角 内 视 镜 物 镜

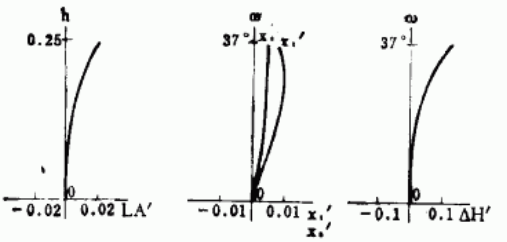
E.F.L＝1　　B.F.L＝－0.05　　FNo.＝2　　F.A.＝±37°**

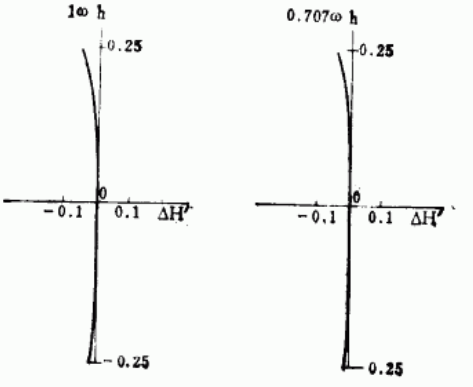


序号	r	d	n	v	序号	r	d	n	v
1	7.5033	0.40	1.51633	64.15	7	2.3414	1.42	1.61800	63.38
2	0.5318	0.82*			8	－1.6235	0.36	1.84666	23.9
3	－6.0438	0.81	1.61800	63.38	9	5.7250	0.31		
4	－1.1286	0.50			10	2.3301	0.87	1.51633	64.15
5	28.6883	0.76	1.58913	61.11	11	∞			
6	－2.9889	0.10							

0.82* = 0.72 + 0.10

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1ω）
	0.00319	0.00375	0.00235	－0.00002	0.07151	0.75	17.6%
h 或 ω%	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.019	0.132	0.006	0.004	0.002	0.0307	0.0088
70	0.011	0.043	0.010	0.004	0.006	0.0298	0.0089



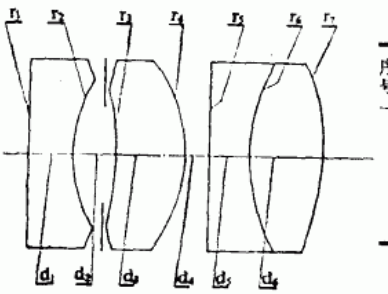


注：1.上表中的像差值是按 l ＝ －∞计算的；
2.近距离工作时，通常取W. D. ＝－15；
3.F. A. 可达±60°。

编号：10-07-010

广 角 内 视 镜 物 镜

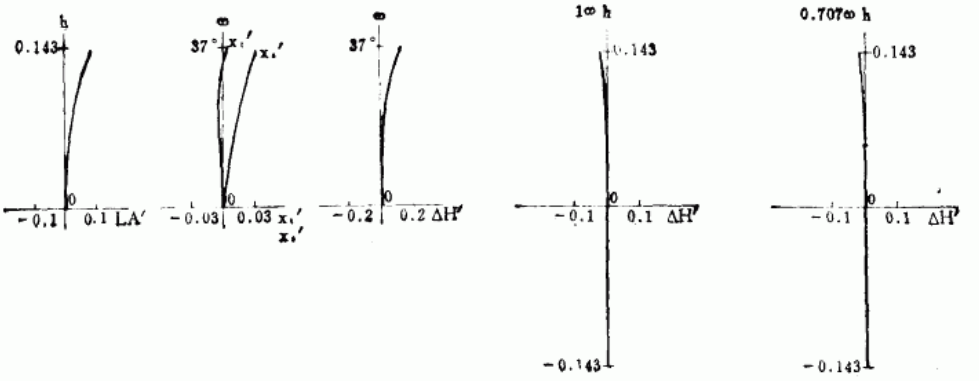
E.F.L＝1　　B.F.L＝1.107　　FNo.＝3.5　　F.A.≈±37°



序号	r	d	n	v	序号	r	d	n	v
1	∞	0.37	1.51633	64.15	5	∞	0.35	1.84666	23.88
2	1.130	0.36*			6	1.130	0.61	1.788	47.49
3	−2.294	0.60	1.757	47.87	7	−1.564			
4	−0.816	0.20							

0.36* = 0.26 + 0.10

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0032	0.0012	−0.0005	0.0035	0.0623	0.75	20.2%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.079	0.15	0.0038	0.0330	−0.0292	0.0064	0.0033
70	0.039	0.05	−0.0013	0.0179	−0.0192	0.0025	0.0014

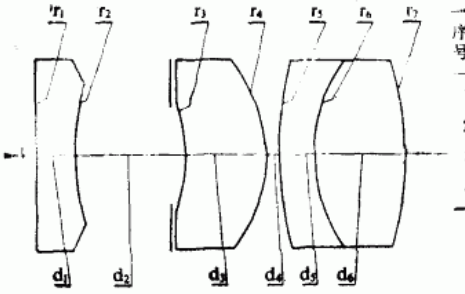


注：上表中的像差值是按 l = −∞计算的。

编号：10-07-041

广 角 内 视 镜 物 镜

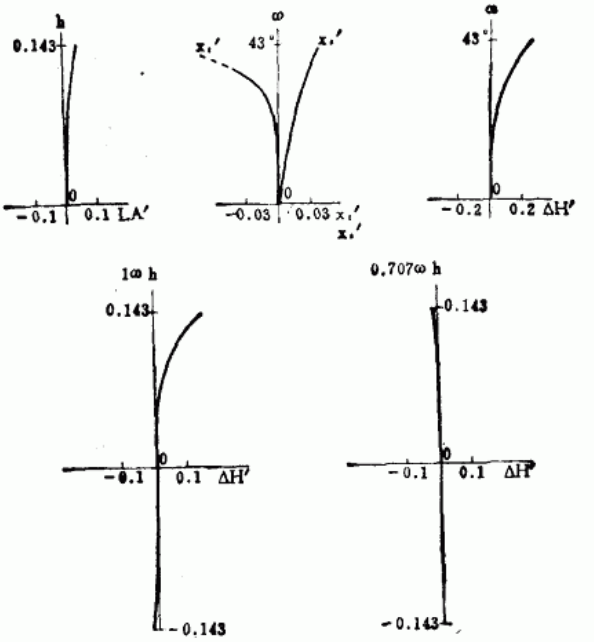
E.F.L=0.997　　B.F.L=1.177　　FNo.=3.5　　F.A.=±43°



序号	r	d	n	v	序号	r	d	n	v
1	13.908	0.32	1.51633	64.15	5	3.688	0.32	1.84666	23.88
2	2.111	0.92*			6	0.883	0.78	1.78800	47.49
3	−1.366	0.69	1.75700	47.87	7	−1.831			
4	−1.042	0.09							

0.92* = 0.80 + 0.12

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0019	0.0023	0.0011	0.0054	0.1023	0.93	26.2%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{t0.7}'$
100	0.048	0.24	−0.130	0.041	−0.171	−0.0680	−0.0140
70	0.024	0.08	−0.014	0.021	−0.035	0.0031	0.0017

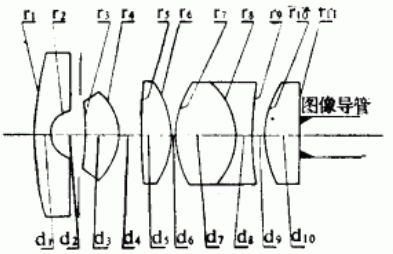


注：上表中的像差值是按 l = −∞计算的。

编号：10-07-042

广 角 内 视 镜 物 镜

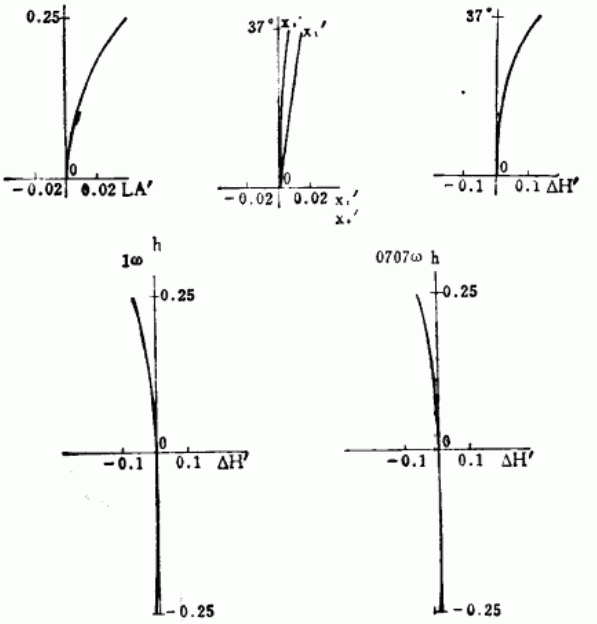
E.F.L=0.9999　　B.F.L=−0.066　　FNo.=2　　F.A.=±37°**



序号	r	d	n	v	序号	r	d	n	v
1	7.880	0.404	1.51633	64.15	7	2.329	1.419	1.61800	63.38
2	0.530	0.809*			8	−1.616	0.359	1.84666	23.9
3	−6.338	0.809	1.58913	61.11	9	5.067	0.305		
4	−1.092	0.503			10	2.432	0.872	1.51633	64.15
5	21.493	0.764	1.58913	61.11	11	∞			
6	−2.923	0.090							

0.809* = 0.700 + 0.109

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0046	0.0046	0.0031	−0.0002	0.0715	0.75	17.7%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{f_1}	$K_{f_{0.7}}$
100	0.038	0.13	0.0159	0.0068	0.0091	0.0388	0.0115
70	0.018	0.04	0.0148	0.0050	0.0098	0.0354	0.0107

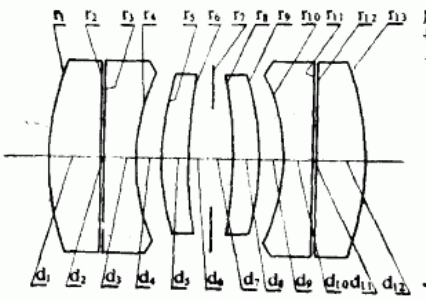


注：1.上表中的像差值是按 l = −∞计算的；
2.近距离工作时，通常取W.D. = −15；
3.F.A. 可达±60°。

编号：10-08-001

复 印 机 物 镜

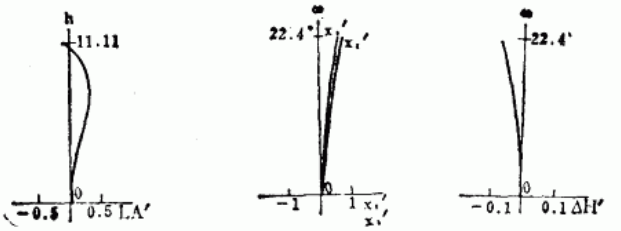
E.F L＝100　　B.F.L＝84.94　　FNo.＝4.5　　F.A.＝±22 4°

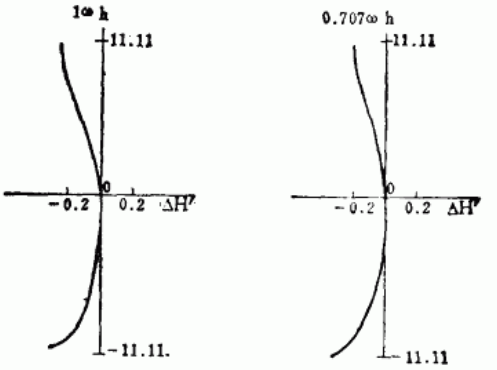


序号	r	d	n	v	序号	r	d	n	v
1	27.059	5.464	1.72000	43.7	8	－49.843	2.532	1.69350	50.8
2	119.868	0.269			9	－31.836	2.314		
3	127.235	3.357	1.64769	33.8	10	－20.743	3.357	1.64769	33.8
4	20.743	2.314			11	－127.235	0.269		
5	31.836	2.532	1.69350	50.8	12	－119.868	5.464	1.72000	43.7
6	49.843	2.341*			13	－27.059			
7	∞	2.341							

2.341* ＝2.341＋0

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.027	0.022	0.001	0.031	－0.157	41.1	－0.18%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－0.074	－0.076	0.68	0.60	0.08	0.303	0.157
70	0.305	－0.023	0.52	0.46	0.06	0.283	0.117





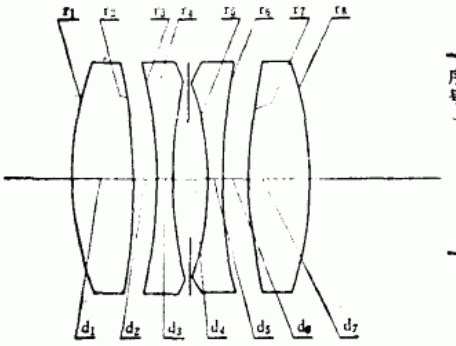
注：1. $\beta=-1$；

2. 上表中的像差值是按 $l=-\infty$ 计算的。

编号：10-08-002

复 印 机 物 镜

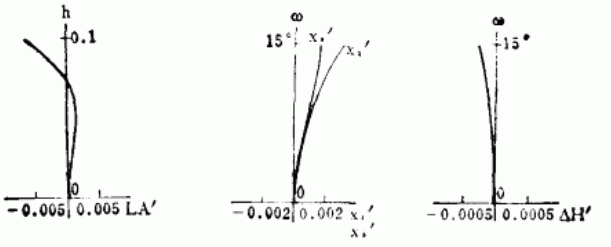
E F L＝0.9997　　B.F.L＝0.909　　FNo.＝5　　F A.＝±15°

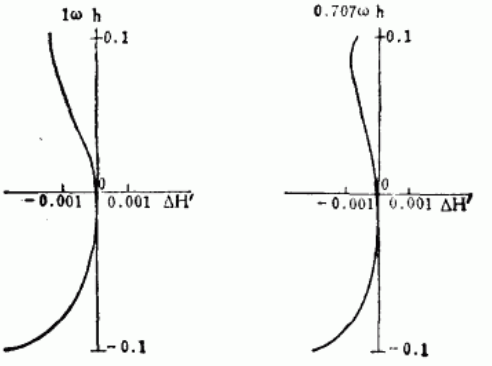


序号	r	d	n	v	序号	r	d	n	v
1	0.31691	0.0544	1.69350	53.2	5	−0.41820	0.0134	1.58144	40.7
2	−0.96330	0.0208			6	0.46932	0.0208		
3	−0.46932	0.0134	1.58144	40.7	7	0.96330	0.0544	1.69350	53.2
4	0.41820	0.0276*			8	−0.31691			

0.0276* = 0.0138 + 0.0138

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.000150	0.000116	0.000003	0.000077	−0.000066	0.26	−0.1%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}	$K_{T0.7}$
100	−0.0065	−0.00027	0.0029	0.0014	0.0015	0.0020	0.0009
70	0.0008	−0.00008	0.0017	0.0013	0.0004	0.0014	0.0006





注：1. β = −1

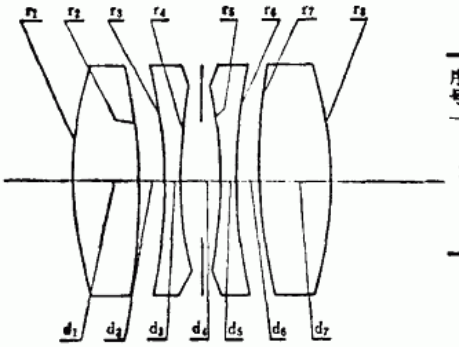
2. 上表中的像差值是按 l = −∞计算的；

3. 实际使用时通常取E. F. L = 280。

编号：10-08-003

复 印 机 物 镜

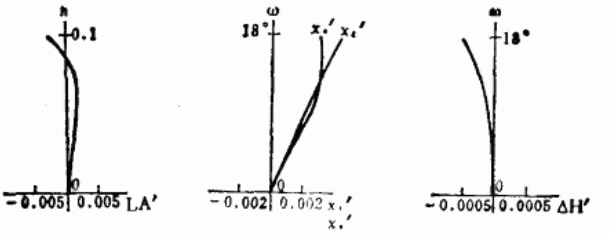
E.F.L＝1　　B.F.L＝0.904　　FNo.＝5　　F.A.＝±18°

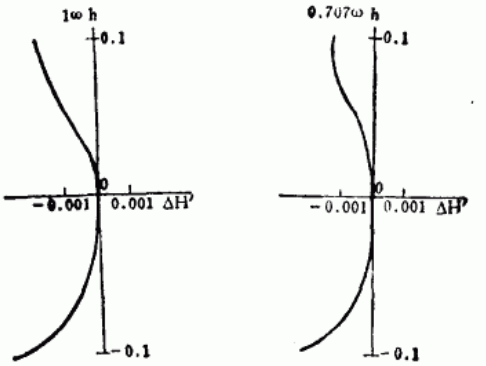


序号	r	d	n	ν	序号	r	d	n	ν
1	0.33348	0.0570	1.69350	53.2	5	−0.44655	0.0147	1.58144	40.7
2	−0.94949	0.0195			6	0.48473	0.0195		
3	−0.48473	0.0147	1.58144	40.7	7	0.94949	0.0570	1.69350	53.2
4	0.44655	0.0339*			8	−0.33348			

0.03390* = 0.01695 + 0.01695

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.000156	0.000134	0.000002	0.000163	−0.000138	0.32	−0.16%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t - x_s'$	K_{f_1}	$K_{f_{0.7}}$
100	−0.0031	−0.0005	0.0048	0.0027	0.0021	0.0024	0.0011
70	0.0016	−0.0001	0.0029	0.0027	0.0002	0.0017	0.0008



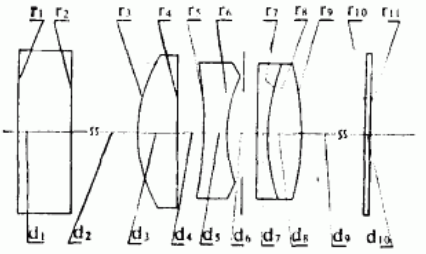


注：1. β＝−1；
2. 上表中的像差值是按 l ＝ −∞ 计算的；
3. 实际使用时通常取 E.F.L＝204。

编号：10-08-004

天塞型复印机物镜

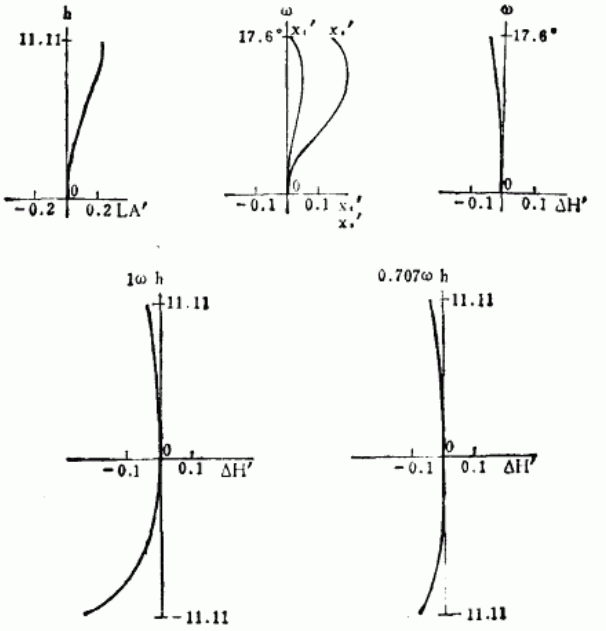
E.F.L=100.09　　B.F.L=−7.88　　FNo.=4.5　　F A.=±17.6°



序号	r	d	n	v	序号	r	d	n	v
1	∞	13.158	1.51633	64.1	7	−788.105	2.632	1.58144	40.7
2	∞	1039.145			8	47.368	8.158	1.83481	42.7
3	39.474	9.211	1.77250	49.6	9	−66.426	84.174		
4	394.832	6.711			10	∞	1.316	1.77250	49.6
5	−97.368	5.395	1.71736	29.5	11	∞			
6	34.697	7.369*							

7.369* = 4.000 + 3.369

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0112	0.0009	−0.0045	0.0227	−0.0304	31.7	−0.16
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.227	−0.051	0.016	0.151	−0.135	0.130	0.043
70	0.176	−0.024	0.056	0.217	−0.161	0.067	0.020



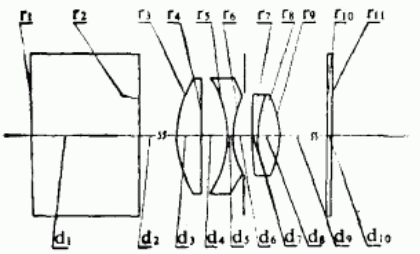
注：1. β = −0.104；

2. 上表中的像差值是按 l = −∞ 计算的。

编号：10-08-005

复 印 机 物 镜

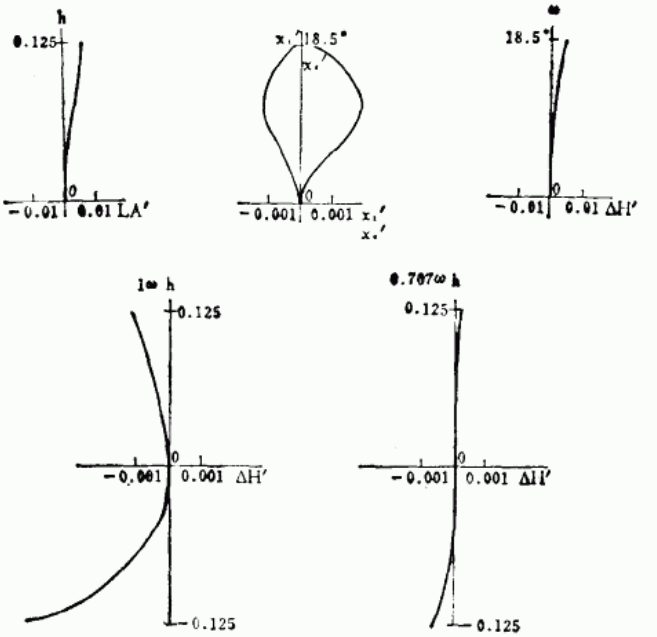
E.F.L＝1　　B.F.L＝−0.104　　FNo.＝4　　F.A.＝±18.5°



序号	r	d	n	v	序号	r	d	n	v
1	∞	0.5337	1.51633	64.15	7	2.4257	0.0247	1.53172	48.90
2	∞	9.8955			8	0.4821	0.1033	1.69350	53.23
3	0.5134	0.1252	1.64852	53.20	9	−0.4360	0.9287		
4	∞	0.1247			10	∞	0.0243	1.51633	64.15
5	−0.5046	0.0252	1.59270	35.29	11	∞			
6	0.3731	0.0883*							

0.0883* = 0.0500 + 0.0383

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.00027	−0.00012	−0.00015	0.00012	0.00082	0.33	1 %
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0054	0.0035	−0.0002	0.0004	−0.0006	0.00289	0.00124
70	0.0036	0.0011	−0.0013	0.0021	−0.0034	0.00019	0.00007



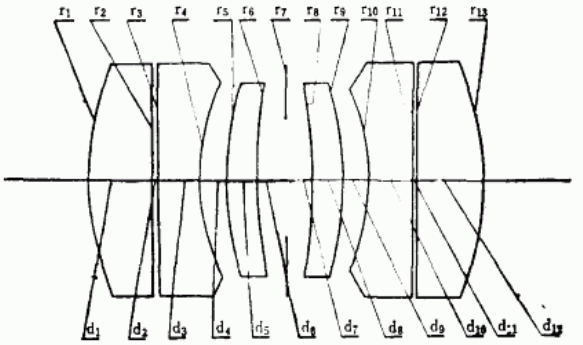
注：1. $\beta \approx -0.104$；

2. 上表中的像差值是按 l ＝ −∞ 计算的。

编号：10-08-006

小型对称大孔径复印机物镜

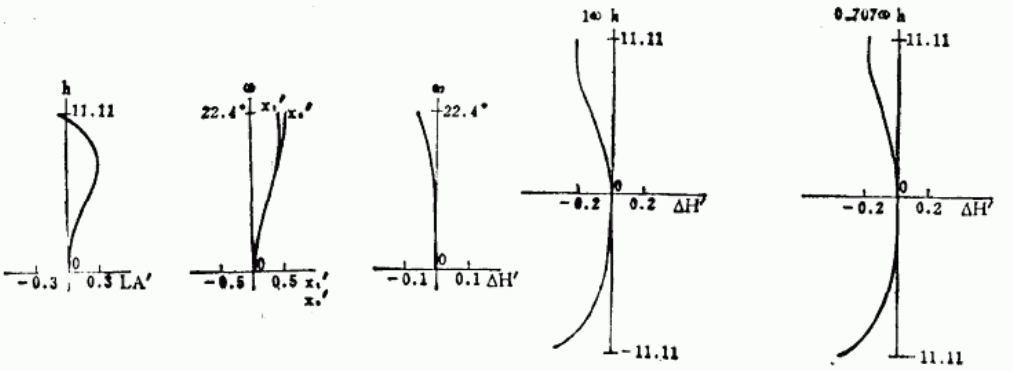
E.F.L＝100　　B.F.L＝34.47　　FNo.＝4.5　　F.A.＝±22.4°



序号	r	d	n	v	序号	r	d	n	v
1	26.997	5.519	1.72000	43.7	8	－50.194	2.880	1.69350	50.8
2	119.987	0.064			9	－31.998	2.400		
3	129.506	3.560	1.64769	33.8	10	－20.733	3.560	1.64769	33.8
4	20.733	2.400			11	－129.506	0.064		
5	31.998	2.880	1.69350	50.8	12	－119.987	5.519	1.72000	43.7
6	50.194	2.400*			13	－26.997			
7	∞	2.400							

2.400* = 2.400 + 0

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0270	0.0229	0.0006	0.0307	－0.1730	41.2	－0.16%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T_1}'	$K_{T_{0.7}}'$
100	－0.070	－0.066	0.47	0.52	－0.05	0.297	0.160
70	0.300	－0.020	0.44	0.43	0.01	0.274	0.118



注：1. β＝－1；

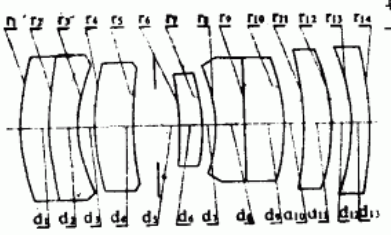
2. 上表中的像差值是按 l ＝－∞计算的。

编号: 10-08-007

复 印 机 变 倍 物 镜

E. F. L＝239.08～251.86　　B. F. L＝169.04～203.05　　FNo. ＝5.6

F. A. ＝±16.3°　　β＝－0.64～－1.41　　N. A. ＝0.0544～0.0370



序号	r	d	n	v	序号	r	d	n	v
1	60.078	7.49	1.69100	54.8	8	－40.196	8.83	1.60342	38.0
2	82.000	8.15	1.54072	47.2	9	－900.000	11.09	1.67790	55.3
3	41.500	4.56			10	－52.200	＊＊＊1		
4	64.838	10.62	1.65160	58.6	11	－85.394	8.84	1.74950	35.3
5	116.372	12.63＊			12	－53.858	5.47		
6	－106.775	6.41	1.62041	60.3	13	－52.200	5.00	1.78590	44.2
7	－56.405	3.64			14	－112.397			

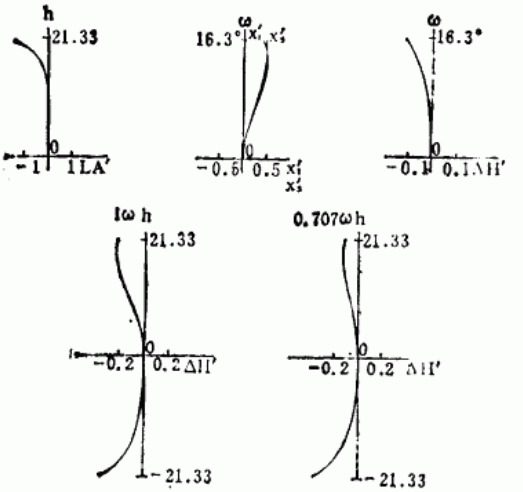
12.63° = 6.33 + 6.30

10-08-007-1

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	0.0116	0.0197	0.0027	0.0119	－0.0316	69.7	－0.18%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	－1.59	－0.13	0.37	0.43	－0.06	0.307	0.147
70	－0.15	－0.04	0.41	0.33	0.08	0.255	0.110

E. F. L＝239.08

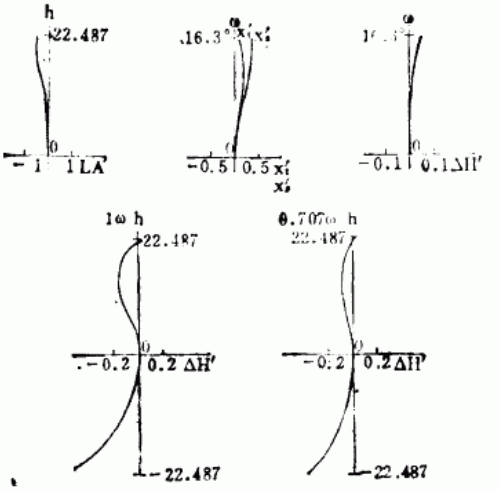
＊＊＊1 ＝21.41



	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	-0.0053	0.0296	-0.0001	0.0132	-0.0012	73.51	0.06%
h 或 ω %	LA′	ΔH′	x_t'	x_s	$x_t' - x_s'$	$K_{T'}$	$K_{T0.7}'$
100	-0.52	0.04	0.09	0.33	-0.24	0.274	0.214
70	-0.37	0.01	0.22	0.28	-0.06	0.197	0.142

E. F. L = 251.86

＊＊＊ 1 = 5.30

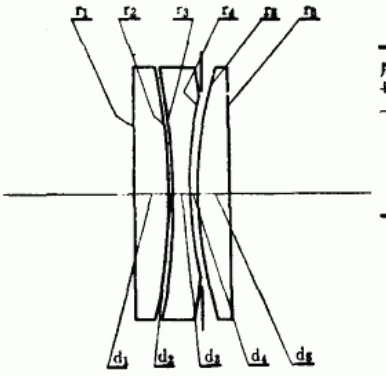


注：上表中的像差值是按 1 = -∞计算的。

编号：10-08-008

三片型球面超消色差天文望远物镜

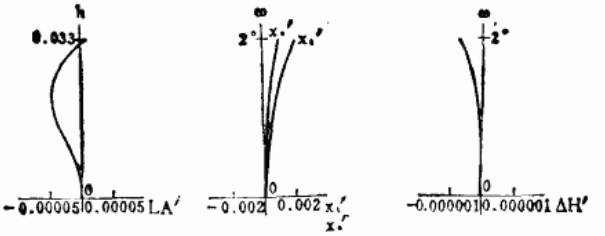
E.F.L＝1　　B.F.L＝0.98　　FNo.＝15　　F.A.＝±2°.5

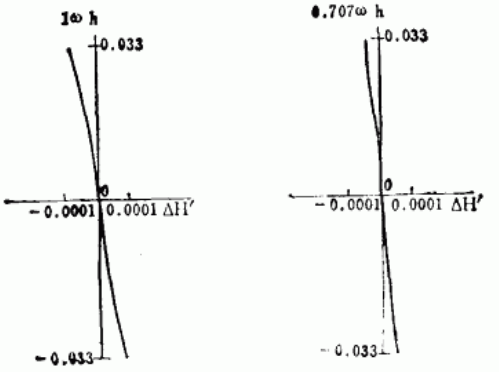


序号	r	d	n	v	序号	r	d	n	v
1	0.38099	0.010220	1.61720	54.04	4	0.14722	0.001519*		
2	−0.20638	0.000102			5	0.14689	0.010220	1.53256	45.91
3	−0.20790	0.005110	1.61340	43.84	6	3.67214			

0.001519* = 0.0008 + 0.000719

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	-4.2×10^{-7}	-6×10^{-8}	1.40×10^{-6}	9.4×10^{-7}	-4×10^{-8}	0.035	−0.001%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}	$K_{T0.7}$
100	5×10^{-6}	-6.6×10^{-7}	0.0023	0.0010	0.0013	-4.1×10^{-6}	-1.7×10^{-6}
70	-5.0×10^{-5}	-2.3×10^{-7}	0.0011	0.0005	0.0006	-2.9×10^{-6}	-1.2×10^{-6}

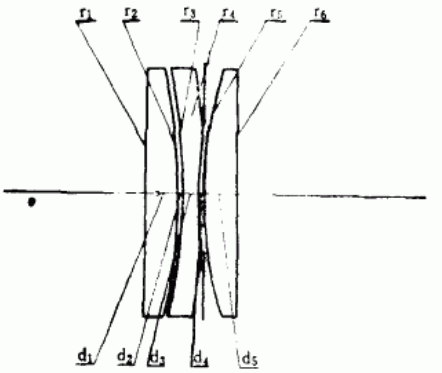




编号: 10-08-009

复消色差天文望远物镜

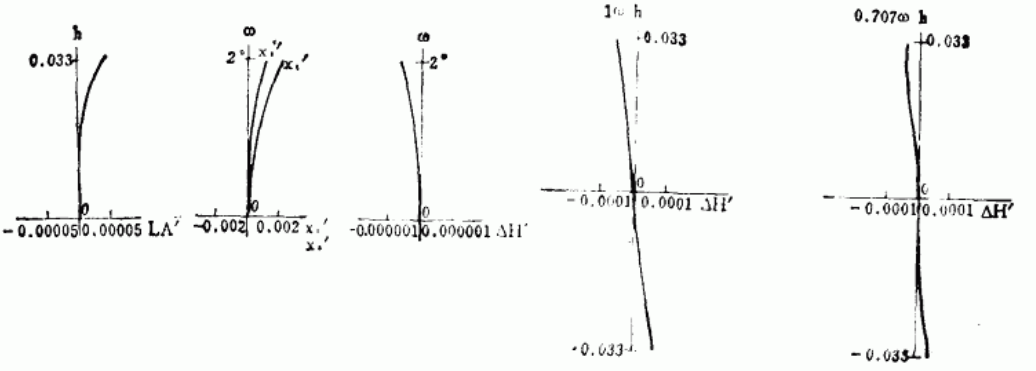
E.F.L≒1　　B.F.L=0.98　　FNo. =15　　F.A. = ±2°**



序号	r	d	n	v	序号	r	d	n	v
1	0.376707	0.00994250	1.48749	70.15	4	0.138654	0.00062640*		
2	-0.200839	0.00009943			5	0.140975	0.00994250	1.51118	51.02
3	-0.209787	0.00497130	1.52682	51.12	6	10.834605			

0.00062640* = 0.0004000 + 0.0002264

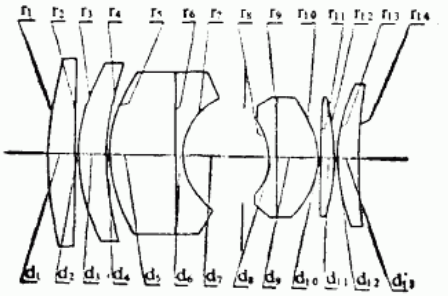
	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HJ	QP (1 ω)
	-4×10^{-9}	1.54×10^{-7}	1.343×10^{-6}	9.83×10^{-7}	-4.3×10^{-8}	0.035	-0.001%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	4.2×10^{-5}	-6.6×10^{-7}	0.0023	0.0010	0.0013	-4.3×10^{-6}	8×10^{-7}
70	9×10^{-6}	-2.3×10^{-7}	0.0011	0.0005	0.0006	-3.0×10^{-6}	5×10^{-7}



编号：10-08-010

实用的制造集成电路用高分辨率微缩制版镜头

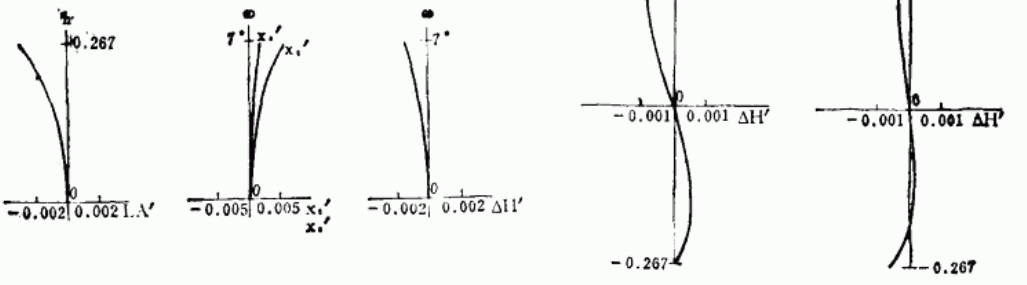
E.F.L＝1　B.F.L＝0.391　FNo.＝1.87　F.A.＝±7°



序号	r	d	n	ν	序号	r	d	n	ν
1	1.52676	0.11220	1.76111	53.47	8	−0.25887	0.02719	1.70337	33.00
2	30.00920	0.00340			9	−185.54400	0.17631	1.66104	58.40
3	0.74882	0.11707	1.63229	56.40	10	−0.34935	0.00356		
4	1.18076	0.01534			11	19.11590	0.06802	1.76111	53.47
5	0.59936	0.28869	1.63229	56.40	12	−0.99018	0.00340		
6	20.93220	0.02719	1.65741	35.70	13	0.77921	0.08313	1.76111	53.47
7	0.26261	0.36052*			14	9.63852			

0.36052* = 0.25519 + 0.10533

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP（1 ω）
	−0.00042	0.00010	0.00017	0.00011	−0.00083	0.122	−1.1%
h 或 ω %	LA′	ΔH′	x_t'	x_s'	$x_t'-x_s'$	K_{T1}'	$K_{T0.7}'$
100	−0.0031	−0.0014	0.0053	0.0019	0.0034	0.00036	0.00016
70	−0.0015	−0.0004	0.0024	0.0009	0.0015	0.00037	0.00016



注：1. β = −0.1；

2. 上表中的像差值是按 l = −∞计算的。